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University of California, Berkeley, 1988

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Topics in Tepehua Grammar

By

James Kenneth Watters
A.B. (University of California, Santa Barbara) 1975
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Topics in Tepehua Grammar

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Topics in Tepehua Grammar

James K. Watters

Abstract

Various issues in the grammar of Tepehua, a Totonacan language of eastern Mexico, are explored, largely within the framework of Role and Reference Grammar (RRG).

Chapter 1 provides a brief introduction to the Tepehua language and the wider linguistic and cultural context as well as a presentation of the relevant aspects of RRG and Frame Semantics.

Chapter 2 discusses the verb and verb phrase. A classification of verbs based on inherent aspect as well as formal evidence for the classification are presented. The productive process of verb-verb compounding is demonstrated and the formal constraint re transitivity of compound verbs is discussed.

The extensive valence-affecting verb morphology is presented and it is argued that there is a distinction between affixes which involve the lexical encoding of arguments and those which involve the syntactic encoding of arguments, the latter paralleling the function of prepositions in other languages. The form and interpretation of the affixes with adverbial functions are also discussed.

Inflectional verbal morphology is sketched out, demonstrating inflectional categories for aspect (perfective, imperfective, perfect, progressive), tense (future, past), mood (irrealis), locationals, and person

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marking. Person marking is shown to involve special complexities in the passive and inverse verb constructions. The infinitive construction and its distribution is then discussed as well as the adverbs, including a rather large class of 'dependent core-level' adverbs.

Chapter three presents the derivational and inflectional processes that occur with numerals and adjectives, and the special comparative constructions in which adjectives may occur.

Chapter four presents data regarding nouns and noun phrases, including a rather extensive discussion of the form and interpretation of the various de-adjectival and deverbal nominalization processes. The chapter also exhibits the two inflectional processes that occur with nouns (pluralization and possession) and a discussion of *ni* and *yu:* and their dual functions as complementizer and relative pronoun on the one hand, and as definite articles on the other.

Chapter five discusses the two true prepositions in Tepehua as well as the relational nouns which have a similar function.

An appendix presents the major issues in Tepehua phonology.

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1. Introduction

This dissertation will present various details of Tepehua morphosyntax with some extended discussion of their theoretical significance. Naturally, in a study such as this only a restricted portion of Tepehua grammar can be examined. I will focus on aspects of verbal semantics and morphology that have syntactic consequences. As can be seen in the table of contents, the bulk of the presentation deals with the verb, a fact that is indicative of where the major issues of Tepehua grammar surface.

Topics that are not discussed or are inadequately covered are legion. These include various issues regarding word order, the use of the focus marker, *wa:*, anaphora, the syntactic status of the pronominal affixes on the verb, types of clause juncture and the structure of complex sentences, etc. Work is in progress in each of these areas, however, and will hopefully appear in the future.

The organization of the dissertation is as follows. The remainder of this chapter will introduce both the setting of the Tepehua language and the theoretical framework I will be assuming. Section 1.1 situates Tepehua and its dialects within its wider linguistic context. The next section presents a brief typological sketch of the language. The third section provides an introduction to Role and Reference Grammar (RRG), which figures prominently in the following chapters, and to Frame Semantics, an approach that is especially significant in the discussions of verb valence.

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Chapter 2 presents a classification of verbs according to their inherent aspect as well as a discussion of the various processes of word-formation and inflectional morphology that take a verbal base. The semantically-based classification of verbs discussed at the beginning of the chapter is a key factor in later discussions of valence and valence-affecting morphology, morphological aspect, and adverbials. Portions of chapter 2 were included in Watters 1985 and 1986. However, the present treatment of those sections is significantly different and most of the chapter consists of data and analyses that are presented here for the first time.

Chapter 3 is a brief survey of numerals and numeral classifiers, adjectives, derivational processes involving adjectives and some discussion of the distribution and interpretation of adjectives.

Chapter 4 introduces Tepehua nouns and noun phrases. There are substantive issues to be dealt with regarding the derivation of nouns, especially deverbals, and some of these are presented there. Other topics dealt with include the two inflectional processes that apply to nouns -- pluralization and possession -- and the use of the two definite articles found in the Tlachichilco dialect area.

Chapter five presents the two Tepehua prepositions as well as the functionally similar relational nouns and discusses some of the formal and semantic issues involved.

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1.1 Tepehua dialects and Totonac

Tepehua is closely related to Totonac as any cursory survey of relevant data will show. They share a relatively high percentage of cognates and much of the grammar is at least similar. However, there is no clear relative to the twin sisters of Totonac and Tepehua. In traditional classifications put forward in the early part of this century, Totonacan was classified with Mixe-Zoque and Mayan as part of the so-called 'Mexican Penutian' language phylum. In a well-known recent work (Greenberg 1987) the same assumption is made. Though a few cognates have been suggested (McQuown 1956) there is no set of systematic correspondences that has been proposed in the literature. The classification of Totonacan in 'Mexican Penutian' is, instead, apparently based on typological features (e.g., extensive agglutinative morphology, glottalized stops, etc.) Of course, Totonacan must ultimately be related to some other American Indian language family, presumably in Mesoamerica, and likely candidates are Mixe-Zoque and Mayan. The relationship has not yet been demonstrated, however. In fact, the only comparative reconstruction work within Totonacan that has been published is a very short study by Arana (1953).

The name 'Tepehua' is, to use Jim Matisoff's term, an exonym; it is a designation given by the Aztecs and not by the speakers themselves. There are three Tepehua dialect areas (see map at end of this chapter) and each use a

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different designation. The speakers of the Pisa Flores dialect simply refers to their language as *kinčiwi:nti'an*, 'our speech' or use the standard term, 'Tepehua,' to refer to the language or a speaker. In Huehuetla a Tepehua speaker is called *maq'aɬq'ama'* and the language is *ɬi:maq'aɬq'ama'*, terms of uncertain etymology. In the Tlachichilco dialect area, which is the source for most of the data in this study, a speaker is *ma:sipihni:*, and the language is *ɬi:ma:sipihni*. The prefix *ɬi:-* regularly occurs on noun stems referring to ethnic groups, the resulting form designating the language spoken by that group (see chapter 4), hence its occurrence in the Huehuetla and Tlachichilco terms for the language. The Tlachichilco name for a speaker, *ma:sipihni:*, apparently has an etymology that corresponds to the Aztec exonym: *sipih*, 'highlands, mountains' and the prefix *ma:-*, designating 'owner, dweller' (cf. Aztec, *tepe-*, 'mountain,' and *hua*, 'dweller, owner').

Most of what I say regarding the grammar appears to be true of all three dialect areas, many of the differences between the groups having to do with changes in the lexicon and some minor phonological changes. Where there are important differences, I try to point that out. Partly because of this and the fact that the exonym is accepted by all three groups as a legitimate term for the language and its speakers, I will use the term Tepehua rather than one of the dialect-specific names mentioned above.

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Tepehua is spoken in eastern Mexico, in the distinctive Huasteca region, in the area where the states of Hidalgo, Veracruz and Puebla meet. The three dialect areas of Tepehua were apparently already separated at the time of the conquest. This is suggested by glottochronology (for what it's worth) and by the fact that Tepehua (non-borrowed) names for objects and activities that were introduced by the Spanish (e.g., baptism, townhall, town authority, etc.) are totally distinct from one dialect to the next.

In the Tlachichilco dialect area (the area that is the source of the data here) Tepehua is spoken in eight different settlements, the ones with the largest number of speakers being the villages of Chintipàn, Tierra Colorada, and Tecomajapa. (Though there are some Tepehua speakers in the municipio town of Tlachichilco itself, most who live there are Spanish-speaking ranchers.) There are about 4000 speakers of that dialect. In the Huehuetla dialect area there are probably around 3000 speakers; and in the Pisa Flores area about 5-6000. The town of Mecapalapa has both Tepehua and Totonac speakers. (See map at the end of this chapter.)

Significantly, the three dialect areas are not only separated by natural boundaries (rivers and the rugged mountains of the Huasteca) but also by political boundaries. Huehuetla is in the state of Hidalgo, Mecapalapa in the state of Puebla, and Tlachichilco and Pisa Flores are both in the state of Veracruz but pertain to separate municipios.

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(The Tlachichilco dialect area is actually spread between two municipio territories, Tecomajapa pertaining to Zontecomatlàn, and the others to Tlachichilco; Pisa Flores is under the jurisdiction of Ixhuatlàn de Madero.) The presence of these political boundaries reinforces the effect of the natural boundaries, greatly reducing contact between the areas. In fact, the Tepehuas of Tlachichilco and those of Huehuetla in general are not aware of each others' existence.

Totonac is composed of several distinct dialect areas and there has been some question as to whether the Tepehua groups simply form a continuum with the other Totonacan dialects or if there really is some truth to the traditional view which sees the primary split between Totonac and Tepehua with further dialect variation lower on the tree. There is no question that the latter is correct. There are phonological and morphological distinctions that are shared by all three Tepehua groups and that are absent from all the Totonac groups.

There is a fair amount of published material available on Totonac including three bilingual (Totonac-Spanish) dictionaries, each from a distinct dialect area: Aschmann 1962,1973 and Reid et al 1974. A fasinating early source on Totonac is a grammar by José Zambrano Bonilla published in 1752 (a copy is in the Bancroft library at U.C. Berkeley). His analysis of the verb suffix *-ni* as an applicative (*aplicativo*) and the prefix *pu:-* as a preposition is

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especially interesting in light of the analysis presented in 2.3.1.1.

The amount of published and semi-published material available on Tepehua, on the other hand, is very limited. The total amounts to three short articles on the Huehuetla dialect (Bower 1948, Bower and Erickson 1967, Herzog 1974) and a few items I've written on the Tlachichilco dialect (Watters 1980,1984,1985,1986,1987). A primary purpose of this account is to make accessible previously unavailable Tepehua data.

The Tepehuas, like their neighbors, the Aztecs and Otomis, practice slash-and-burn agriculture, raising corn, beans, and coffee, the last as a cash crop. They have had extensive contact with the Spanish-speaking dominant culture and often (especially in the Tlachichilco area) hire out to work for Spanish-speaking ranchers: men work in clearing fields and handling livestock, women sell firewood and do laundry, and both men and women work the coffee harvest. As would be expected, then, most Tepehua speakers can speak Spanish to some degree, varying from truly bilingual (especially some of the young men) to quite monolingual (especially characteristic of older women). There are a few older individuals that are multilingual in Tepehua, Spanish, Aztec, and/or Otomí. Presumably, such multilingualism was much greater at one time[1]; now the only second language that

1 Of course, at the time of the conquest, Aztec was a lingua franca throughout much of Mexico. In the Tepehua area, however, it is interesting to note the amount of bilingualism with Otomí that was present about two generations ago. The town of Tzicatlan (at the base of

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is regularly learned is Spanish. In spite of this bilingualism, however, in all three dialect areas Tepehua is the overwhelmingly preferred language of communication among the people themselves. Only school-teachers and those who have been away from the area for a significant amount of time will refuse to speak their mother tongue, speaking Spanish to everyone, including family members.

Among some there is a feeling that the only way to be economically successful is to abstain from speaking Tepehua and to speak only Spanish. Those who seriously view Tepehua as a handicap will speak to their children only in Spanish, even if their own command of Spanish is weak. This reflects a general attitude conveyed by the terms used by Spanish speakers in the area to designate the two major people-groups: *Indios* (including Tepehuas, Aztecs, and Otomis) and *gente de razón* (all Spanish-only speakers, including those who are of Indian descent).

The major source on Tepehua culture is a book by the Mexican anthropologist Williams Garcia, published in 1963. Though somewhat dated, it is mostly an excellent introduction to Tepehua culture, including a review of some of the extensive relocation projects that were attempted by the colonial government.

In the Tlachichilco area, where most of the data for this dissertation was collected, even though the language is

---

the mountain from Tecomajapa) is said at one time to have consisted primarily of families in which one parent was Otomi and the other Tepehua. Today there are a few older individuals there who speak both languages; the rest speak Otomi or Spanish.

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in vigorous use (almost all children start school monolingual in Tepehua), much of the traditional material and religious culture has disappeared. Unlike the Huehuetla and Pisa Flores areas, even the oldest women have discarded the traditional wide belt and embroidered blouse.[2] I'm told that this is primarily due to financial considerations: it's cheaper and certainly less time-consuming to buy used clothing brought in from the outside and sold at market.

Similarly, I've been told that in the Tlachichilco area not one *k'uch'unu:* (curandero or healer) is teaching his craft to a younger man, and the few that are left are quite old and do their healing ceremonies in Spanish. (The traditional knowledge of Tepehua names and medicinal uses of plants, however, is very widespread.)

While some families started a church in a settlement outside of Chintipàn associated with a national Pentecostal denomination in the late 1960s, most Tepehuas would consider themselves to be Catholics. However, they typically don't attend mass except to baptize their infants. Their traditional religious observances are also quite minimal: sacrifices to the *anti:was* (from Spanish, *antigua*, to refer to small pre-Columbian figurines found in the woods) have been largely absent for nearly thirty years. (Again, I've

2. Williams García noted that this was the case at the time he did his fieldwork:

> En Chintipàn [major town of the Tlachichilco dialect area] no hay traje autóctono femenino. Las ancianas recuerdan vagamente que sus mayores eran *liadas* ceñidas con fajas rojas que tenían una flor en la punta...La distancia del tiempo les impide precisar; solamente retienen la imagen de una faja roja. (1963:85)

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been given an economic explanation for the change: it became too costly to continue the sacrifices so most of the *anti:was* were returned to the woods). The biggest religious celebrations are those that are held throughout Mexico: *Santo:roh* (Todos Santos or All Saints) and *Pa:xku* (Pascua or Good Friday).

This assimilation of aspects of the dominant culture is also apparent in Tepehua stories. Tepehua stories include several that are based on biblical figures and events as well as some wide-spread stories such as Hansel and Gretel and B'rer Rabbit. Other stories, however, don't have any obvious outside source. A set of stories collected in Spanish from the Pisa Flores area has been published by Williams García (1974). A collection of stories in Tepehua with Spanish glosses and translation from the Tlachichilco area should appear in the not-too-distant future.

There are varying amounts of code-switching between Tepehua and Spanish -- a topic that could easily fill another study of this size. It should be mentioned, however, that in narrating extended accounts (whether fiction or non-fiction), quotations from Spanish-speakers are generally recounted in Spanish. Beyond this, some story-tellers use extensive amounts of Spanish in their Tepehua stories. In fact, this seems to be due in part to the fact that a story-teller has often been drinking heavily; and the more inebriated the speaker, the more Spanish he tends to use.

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Other story-tellers, on the other hand, use relatively little Spanish.

On a different level, it will be noted in the examples given in the following chapters that there are numerous Spanish loanwords in Tepehua. These largely consist of proper names, function words (e.g., prepositions, phrase- and clause-level conjunctions), and items and activities that have been recently introduced (radios, cars, etc.)

1.2 Typological characteristics

Tepehua is a head-marking language, in the sense of Nichols 1986. That is, on the clause level, the syntactic relationships between the constituents (subject and object) are encoded on the the head of the clause, the verb, rather than on the NPs. Similarly, in genitive constructions the relationship of possession is marked on the head noun rather than on the possessor. The one exception to the head-marking pattern is the prepositional phrase in which the preposition cliticizes onto the head of its complement (see chapter 5).

On the clause-level, not only are the subject and object arguments coded on the verb, but the semantic relations of otherwise oblique arguments are frequently marked on the verb as well. These are constructions that are very similar to the well-known applicative constructions of Bantu and are like those that have been referred to in recent work as instances of 'preposition incorporation' (Baker 1988) and 'relational preverbs' (Craig and Hale 1988). These constructions are discussed in 2.4.

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As is typically the case, the constructions that are head-marking are endocentric (i.e., the head alone frequently substitutes for the entire construction). On the clause level this has the effect that many clauses consist only of the verb (even in clauses with more than one argument). While many clauses have no overt NPs, it is relatively rare for a clause to have two (or more) overt NPs. When NPs are present, it is clear that clause-level word order is determined overwhelmingly by pragmatic rather than syntactic factors (cf. Payne 1987).

The fact that clauses don't typically have two overt NPs, coupled with the fact that subject and object aren't clearly assigned to distinct positions makes it difficult to specify a clause-level word order for Tepehua. Nevertheless, Tepehua can be classed as an (S)VO language of a fairly typical sort: when two overt NPs occur in the same clause, the typical order is SVO[3]; when one NP is present, it typically follows the verb (VS or VO). Tepehua has prepositions rather than postpositions, a head noun precedes its relative clause, and the language has a significant set of verbal prefixes as well as suffixes. These features will be clearly evident in the examples and discussions throughout the study.

3 The fact that the order in such clauses is SVO, of course, need not be determined directly by the syntax. As has frequently been pointed out in the literature, the subject is often a grammaticalization of agent and topic features; and, cross-linguisitically, clause-initial position is the preferred position for topic.

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1.3 RRG and Frame Semantics

The theoretical framework that is most generally employed in this study is Role and Reference Grammar (RRG) as presented in various studies (Van Valin and Foley 1980, Foley and Van Valin 1984, and Van Valin 1987,1988a, and 1988b) along with notions from Frame Semantics (Fillmore 1975,1977,1982,1985 and Gawron 1983).

RRG is a type of 'functional grammar.' This label, of course, has been used in various ways and applied to several distinct approaches in linguistics (see Nichols 1984); here it highlights the fact that the theory is concerned not only with formal issues in language but with the interaction between form and function. In the present study I will frequently discuss not only the formal aspects of a particular construction but try to provide a functional account as well. Sometimes this will be in the sense of providing a semantic or pragmatic motivation for a certain construction; at other times I will discuss a construction's function in facilitating the tracking of events and participants across clauses.

The central typological distinction in RRG turns on the means by which the 'pivot' NP is determined. The pivot NP is the the central syntactic argument of a clause:

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> ...both inter- and intraclausal syntactic facts point unambiguously to one particular NP type as being central to the syntax of the language, and this NP type is the pivot. In...English constructions the pivot is in every case the 'subject' of the clause and accordingly for English we may equate 'surface syntactic subject' with pivot. (Foley and Van Valin 1984:111)

Languages differ in how they determine which argument in a clause will occur as pivot: in some languages the pivot argument is determined primarily by a hierarchy of *semantic roles*; in others it is primarily determined by discourse features or *referential status* of arguments. To account for such typological variation in a fairly explicit manner, RRG provides a framework that attempts to justify semantic (or thematic) roles as well as a view of the clause structure and clause juncture that gives some substance to the notion of pivot. These two issues -- the determination and implementation of semantic roles and the structure of the clause -- are significant in the analysis I present and so merit some comment here.

In the linguistic literature there are various ways of classifying verbs. Perhaps the most common approach in descriptive studies is to classify verbs according to their surface transitivity. Studies in the generative tradition parallel this but have focussed more on the derivational consequences of a verb's subcategorization frame. In some instances, notably Gruber [1965]1976 and Jackendoff 1976 and 1983, the classification emphasizes the thematic (or semantic) relations within the subcategorization frame. While many studies treat the semantic relations of the

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arguments as primitives, a few (including those by Gruber and Jackendoff) derive them from aspects of verbal semantics. Thus, Jackendoff, following Gruber, argues

> thematic relations are to be reduced to structural configurations in conceptual structure; the names for them are just convenient mnemonics for particularly prominent configurations. (1987:378)

Perhaps the most common approach that has been taken to derive the semantic relations of a verb's arguments from the semantics of the verb has been to utilize some form of lexical decomposition.[4] This is the approach taken in RRG and is the approach I will follow here.

In RRG the semantic relations of a verb's arguments are tied directly to its aspectual nature which makes up the essence of a verb's logical structure (LS). In chapter 2 I will present a classification of Tepehua verbs based on their inherent aspect, within an RRG framework. The classification uses the four major categories of Vendler 1967 as adapted by Dowty 1979: states, activities, achievements, and accomplishments.[5] There are important

---

4 This was, of course, characteristic of Generative Semantics. However, GS differed from approaches discussed here in at least two important ways: first, decomposition was done in a relatively unrestrained manner, and second, GS practicioners argued that the decomposed predicates and their arguments were related by the same syntactic structures and rules that apply after lexical insertion. It's important to realize these crucial differences between the lexical decomposition of GS and that presented by Gruber, Jackendoff, Dowty and Foley and Van Valin. These latter types of decomposition are much more constrained — being largely limited to aspectual and spatial notions — and they do not assign syntactic structure to the decomposed verbs.

5 Some have traced the roots of this classification scheme back to Aristotle but certainly the most widely known version is that developed by Vendler. Some details of Vendler's scheme have been criticized, for example by Mourelatos 1981. Yet, Mourelatos concludes with a parallel

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interrelations among these four classes of predicates. Achievements are simply states with the operator BECOME, their LS represented as

(1) BECOME state'(x)

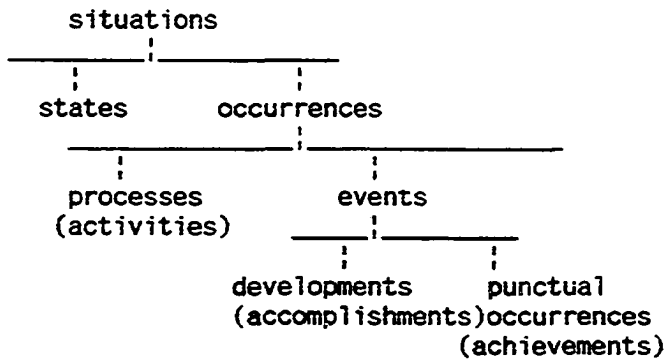
That is, they refer to 'entering' a particular state.[6]

The LS of accomplishments are treated (as in Dowty) as a complex predicate consisting of an activity (often represented by the generalized activity predicate do'), the logical connective CAUSE and an accomplishment:

(2) [do'(x,[...])] CAUSE [BECOME state' (y,z)]

---

account that he diagrams in the following way, with the roughly corresponding categories from Vendler in parentheses:



Dowty also re-arranges the aspect categories of Vendler to some extent, presenting a 2 X 4 matrix of categories, one parameter being the agentive vs.non-agentive distinction. Along the other parameter he distinguishes states, activities, single change of state predicates, and complex change of state predicates. These last two largely correspond to Mourelatos' punctual occurrences and developments, respectively.

However, as will be seen below, following Dowty and Foley and Van Valin, I will not consider all achievements to be 'punctual'; examples of 'process achievements' in English include *freeze* and *melt*. Here the key distinction is change-of-state rather than punctual aspect.

6 Note that as Whorf suggested, we have here a covert category -- 'entering a state' -- in English that has become 'organized around a rationale' ([1936]1959:80,81) and is so expressed in such thematic metaphors (Lakoff and Johnson 1980). It's important to note that Jackendoff 1983 crucially builds on this, treating all inchoatives with the abstract predicate GO TO rather than BECOME.

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Thus, states and activities are the basic predicate structures upon which achievements and accomplishments are built.

Though Dowty 1979 doesn't attempt to relate the semantic relations of a verb's arguments to its predicate structure[7], RRG does just that. That is, like work by Gruber and Jackendoff, RRG treats semantic roles as derivative notions, based on the logical structure of the verb. The following chart (from Foley & Van Valin 1984:53) displays the core of this system:

(3) I. STATE VERBS

A. Locative **be.at'**(x,y) x=theme,y=locative

B. Non-locative

1. State or condition- **predicate**(x) x=patient
2. Perception **see'**(x,y) x=locative,y=theme
3. Cognition **believe'**(x,y) x=locative,y=theme
4. Possession **have'**(x,y) x=locative,y=theme

II. ACTIVITY VERBS

A. Uncontrolled **predicate'**(x) x=effector

B. Controlled DO(x,[**predicate'**(x)]) x=agent

7 In fact, elsewhere Dowty has expressed his skepticism regarding the role of thematic relations in linguistics, considering them to be 'merely labels for clusters of verb entailments and presuppositions'(Ladusaw and Dowty 1985). However, Van Valin has pointed out to me that Dowty's notion of thematic 'proto-roles' as presented at the LSA meetings in December 1987 is very similar to the current RRG notions of 'macroroles' as utilized here.

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As noted above, achievement verbs and accomplishment verbs have logical structures that are elaborations of those listed for state and activity verbs.

These semantic roles do not map directly onto syntactic positions. The mapping is mediated by two 'macroroles': actor and undergoer. The semantic roles form a cline or hierarchy from agent to patient. A universal mapping convention can be stated that runs something like this:

(4) Map the argument whose semantic role is closest to the patient position onto the Underogoer macrorole (if present). Map the argument whose semantic role is closest to the agent position onto the Actor macrorole (if present).

The picture given by Foley & Van Valin is the following, 'the arrows indicating the increasing markedness of the choice'(1984:59):

(5)

ACTOR:	Agent
	.
	.
	Effector
	.
	.
	Locative
	.
	.
	Theme
	.
	.
UNDERGOER	Patient

(Note that the macrorole labels, 'actor' and 'undergoer,' often do not apply to what is literally an 'actor' or 'undergoer'; e.g., a locative might have actor status but it is not an 'actor' in the traditional sense.)

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As in any syntactic framework, the transitivity of a verb must be specified in the lexical entry. The number of macroroles can be determined by this specified syntactic transitivity along with another constraint: activity verbs never have an undergoer macrorole, even if they are syntactically transitive.[8] Thus the single macrorole argument of an activity verb is actor. Furthermore, if a stative verb is intransitive, its single argument will be undergoer.

While the mapping from semantic roles onto macroroles is universal, the mapping from macroroles onto syntactic positions is language-specific. This is where the typology of 'role-dominated' vs. 'reference-dominated' languages emerges. It is actually a 'typological cline' which 'captures the degree to which the grammatical relations in a language are distinct from the semantic predicate-argument relations indicated in the logical structure of the predicate' (1984:123).

In languages with a 'semantic pivot,' pivot selection 'is accomplished on entirely semantic and lexical grounds' (1984:117). These languages most frequently mark the actor of a transitive verb and the single argument of an intransitive in the same way. That is, even though pivot is semantically determined it remains a syntactic notion: in this case one that involves a neutralization of semantic

8 See Van Valin (to appear a) for the argument supporting this constraint. Of course, activity verbs are often syntactically transitive (e.g., 'Tom carried the books for two hours.') but only one argument maps onto a macrorole position.

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roles in intransitive clauses. There are also languages which provide no evidence of having a pivot. Examples include Eastern Pomo, Acehnese, and Archi where the grammatical relations of arguments directly depend on their status as actor or undergoer, without any neutralization of this distinction in intransitive verbs.

In languages with a 'pragmatic pivot,' 'it is the pragmatic considerations of cross-clause coreference and discourse topicality which are the primary determining factors' (1984:114,5) of which NP is assigned pivot status. Included here are nominative-accusative languages such as English as well as syntactically ergative languages such as Dyirbal. In such languages constructions such as passive and antipassive allow marked pivot choices -- arguments that occur as pivot because of their discourse topicality or referential saliency across clauses.

Non-ergative languages with a pragmatic pivot (e.g. English, Spanish, and general Indo-European) are those languages in which the pivot is virtually identical to the traditional notion of 'subject.' Tepehua is also such a language, and, in an attempt at increasing the clarity of presentation, I will use the conventional term, 'subject,' throughout this study in place of 'pragmatic pivot.'

The basic framework of verb classification assumed in RRG will be adopted in this study, and, I will argue, provides a very natural and revealing treatment of Tepehua verb semantics.

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Accounting for the status of the arguments in the logical structure that are not assigned to pivot position is a topic that leads directly into the second issue that concerns us here: what Foley and Van Valin call 'the layered structure of the clause.' They present the following picture of clause structure:

(6) [(NP)...(NP)[NP(NP)[Predicate]]

NUCLEUS

CORE

PERIPHERY

CLAUSE

The innermost unit, the nucleus, consists of the verb (or nonverbal predicate); the core consists of the arguments of the predicate, including direct and possibly oblique arguments.[9] The periphery contains locative and temporal NPs and adverbials that have scope over the entire clause. In some ways this representation is uncontroversial.[10]

9 In Foley and Van Valin 1984 it was specified that the core had at most two arguments. As Van Valin (to appear c) points out, there are three classes of arguments in a clause: those that are represented in the verb's logical structure and are direct morphosyntactic arguments of the verb; those that are represented in the verb's logical structure and are indirect or oblique morphosyntacti arguments; and those oblique arguments that are not represented in the verb's logical structure. In their earlier work, the first type of argument (direct morphosyntactic arguments) was contrasted from the second and third, both of which were considered peripheral arguments. However, in recent work it is assumed the correct distinction is between the first two types of arguments (those that are represented in the verb's logical structure) and the third type of argument (those that are not part of the verb's logical structure). Hence, core arguments include all arguments that are represented in a verb's logical structure (except those that have been removed from the core by a passive or antipassive construction).

10 For example the distinction of something corresponding to the core from the other two levels is at least implicit in most (if not all) theories. Core arguments roughly correspond to term arguments in

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However, it's important to point out that this model does not entail configurational constituent structure as do models such as GB. Thus note that there is no constituent that corresponds to the X-bar notion of V': the subject and object arguments of a verb are, instead, equally arguments of the verb in the core. This is the claim made for universal clause structure; departures from this must be specially learned by the child in the acquisition of the grammar. Thus, in a language such as English, the child must learn the constituency of a VP for such constructions as VP-fronting. (See discussion in Van Valin 1987b) Tepehua displays no clear evidence of a VP.

While this view of the layered structure of the clause has much in common with other theoretical approaches, it involves a crucial claim regarding the interaction of operators and clause structure that is unique to RRG. On the basis of data from a number of languages, it is argued that the following is the correct representation of operator scope and clause structure, the operators with the widest scope listed first (from Van Valin, to appear b; cf. also Foley and Van Valin 1984:224):

Relational Grammar and to all the arguments that participate in the extended projection principle in Government and Binding. In the early Tagmemic analysis of Pickett 1959, her 'nucleus' and 'periphery' or 'satellite' tagmemes correspond to core and peripheral arguments, respectively; in more recent Tagmemic formulations, the core and periphery correspond to elements of the clause or clause root and sentence levels (Pike and Pike 1982). In Dik's Functional Grammar (1978) his 'nuclear predication' basically corresponds to the core and his 'satellites' to the periphery.

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(7)	Clausal operators:	Illocutionary Force
		Evidentials
		Tense
		Status [Epistemic modality and external negation]
	Core operators:	Modality [Deontic modality and internal negation]
	Nuclear operators:	Directionals
		Aspect

Much of the evidence for the relative scope of each of the operators as given in Foley and Van Valin concerns complex sentences which involve more than one nucleus, core, or clause. Though such instances of juncture will be discussed very little in this study, the scope relations listed above do enter into a discussion of the verb morphology. As will be seen in chapter 2, Foley and Van Valin 1984 claim that the relative scope orderings of the operators will also be reflected in their morphosyntactic ordering. It will be shown that the layering within the Tepehua verb provides clear support for this claim.

More recent work in RRG has suggested a model of the sentence such as the following:

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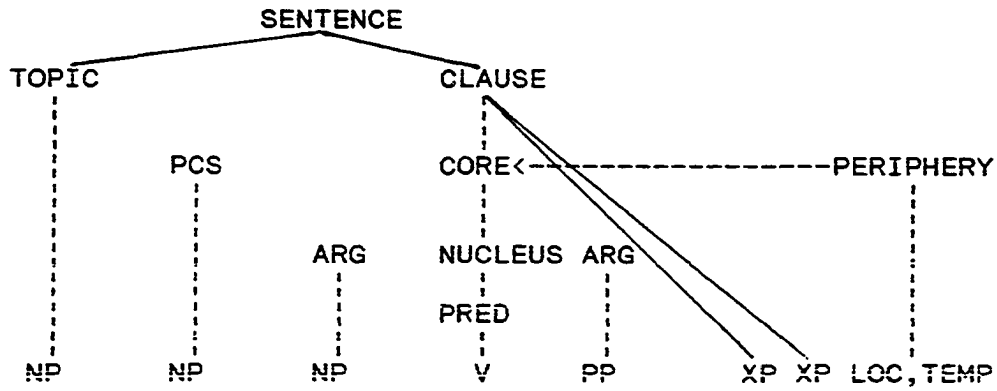
(8)



One of the crucial differences between this diagram and that presented above, is the place of the peripheral elements. For various reasons it has become clear that locatives and temporal adverbials are on a separate projection from that of the nucleus-core-clause hierarchy (for arguments see Van Valin 1987b, Watters 1987).

A more obvious difference here is the addition of a topic and PCS (pre-core slot) to the diagram. The PCS is the focus position in the sentence: the position in which question words and other focus elements occur. All arguments realized by pre-verbal full NPs are in this focus position. All arguments realized by post-verbal full NPs are elements of the clause (XP) but (unlike English) are not direct arguments of the verb. The direct syntactic arguments of a verb are the pronominal forms that occur on the verb (cf. Jelinek 1984 and Van Valin 1987a).

While this study won't develop issues of focus and topic in Tepehua grammar, it's very clear that this picture is entirely compatible with the data. Topic position is a

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sort of 'left-dislocated' slot marked off both by intonation contour as well as the occurrence of a resumptive pronoun:

(9) [TOPIC][PCS][CORE]

ni sasan, wa:-mun yu:ča 'akamin

ART skunk FOC-only 3PRO smell(IMPF)

'The skunk, only it stinks.'(=smells the worst of all)

Further, as implied in the diagram in (8), in Tepehua the locative and temporal adverbials may precede or follow the core (see 2.5.3).

Frame Semantics, as presented by Fillmore in various papers, is centered on the notion that lexical items evoke scenes with a specific number of participants with specific roles. Such scenes evoked by verbs then correspond to a semantic frame or valence description for that verb. The number of arguments in a verb's semantic frame is not necessarily the same as its number of direct syntactic complements. The possibility of a non-isomorphic relation between semantic and syntactic valence will figure prominently in my discussion of verb valence. In English, such a discrepancy is perhaps most obvious in clauses which exemplify what Fillmore calls 'definite null complements.' Thus in the following examples (from Fillmore 1986) only the subject argument is present though it is clearly understood that there is another argument involved, one whose referent is recoverable from the context:

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(10) She arrived.

They approached.

I forgot.

I heard.

Of course, in their normal usage these verbs occur with explicit direct or oblique objects. In Tepehua, as will be shown in chapter 2, there are various stative verbs that have a semantic valence with two arguments: theme and locative. Yet, in their unmarked form they only have one direct morphosyntactic argument, the subject (theme). The locative argument occurs as the object of a preposition or, like the English examples above, is often omitted. In order to occur as a direct morphosyntactic argument of the verb the verb must undergo affixation that increases its (syntactic) valence.

Another sense in which the participants that occur within a verb's semantic frame can differ from its syntactic arguments turns up in the following examples:

(11) I bought it.

I bought it from Tom.

I bought it from Tom for twelve dollars.

Tom sold it to me for twelve dollars.

Tom charged me twelve dollars for it.

It cost me twelve dollars.

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In these examples, the same scene schema, one of a commercial event, is involved, but the meanings of the verbs differ significantly in terms of their semantic frames or the perspective they impose on the scene. More specifically, the verbs differ in terms of which participants are included as a direct arguments and which are not. Of course, Tepehua manisfests the same sort of phenomenon, but as will be seen in section 2.4 it has a means of expressing otherwise oblique arguments as direct arguments of the verb. Affixes that increase the morphosyntactic valence of a verb also assign distinct semantic roles to their arguments. However, like the argument of *for* in the examples above, the semantic role that is assigned is a function of both the verb and the valence-increasing affix.

One of the greatest difficulties in implementing the intuitions of frame semantics has been how to formalize it. Recent work has seen some progress in this area. First, construction grammar -- an approach that is being pursued along various lines at Berkeley (notably by Fillmore, Kay, and G.Lakoff) -- is just now taking on definite shape. Because of its newness, it hasn't been possible for me to test its implications for Tepehua grammar here. Another approach to formalizing the notions of Frame Semantics, drawing largely on Situation Semantics (Barwise and Perry 1983), has been developed by Mark Gawron (especially 1983 and 1986).

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A key notion in both Fillmore's work as well as in Gawron's presentation is a Saliency hierarchy: a hierarchy that predicts which arguments within a verb's frame will occur as a direct argument of the verb. Fillmore's (1977b) formulation of it is the following:

(12) 1.An active element outranks an inactive element.
2.A causal element outranks a noncausal element.
3.A human (or animate) experiencer outranks other elements.
4.A changed element outranks a nonchangd element.
5.A complete or individuated element outranks a part of an element.
6.A 'figure' outranks a 'ground.'
7.A 'definite' element outranks an 'indefinite' element.

The intention is that this hierarchy is to be consulted in the order in which these statements are listed. Thus, an active element outranks everything else; a causal element outranks everything but an active element; and so on. (1977b:102)

Notice that while this hierarchy and the Actor-Undergoer hierarchy of RRG (in (5), above) have certain points in common, they also have significant differences. First, the Actor-Undergoer hierarchy is meant to predict which arguments assume actor and undergoer status; Fillmore's Saliency hierarchy is meant to predict which elements occur in 'the nucleus', i.e., as direct arguments of the verb. Second, the two hierarchies make different predictions in certain instances. For example, in a causative construction with a transitive verb as base, following the Saliency hierarchy, we would expect the (human) causee to be ranked above the patient/theme of the base verb; i.e., the causer would occur as subject, the causee as direct object, and the patient or theme as

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indirect object. If we follow the Actor-Undergoer hierarchy, we would expect the causer to assume actor status and the patient or theme to assume undergoer status; the causee would then be an indirect argument. Of course, both predictions are borne out in different ways cross-linguistically, often in a way that reflects the tenstion between the two hierarchies. This issue will be of some issue in the discussion of the Tepehua dative suffix, *-ni*.

Gawron's presentation of four types of prepositional functions is especially pertinent in this study. He argues for a distinction between argument PPs, in which there is a semantic redundancy between the preposition and the verb, and co-predicating PPs, adjuncts, and controlled complements.

Jolly 1987 provides, in part, a modification of Gawron's work on prepositions within an RRG framework. She demonstrates that the semantic distinctions among locative prepositions that present some problems in Gawron's approach are actually irrelevant at the level of determining whether a PP is an argument, co-predicating, or an adjunct. The crucial factor is not strict semantic redundancy between the preposition and the verb but rather what she calls 'functional redundancy.' Thus in each of the following example, each preposition demonstrates functional redundancy (though not strict semantic redundancy) with the verb in that it specifies a locative-goal argument, as does the verb (sentences from Gawron 1985):

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(13) He sprinkled the flowers under/onto/next to the bed.

This notion of functional redundancy allows Jolly to distinguish only three major prepositional functions. The first are the non-predicative prepositions -- those that have a functional redundancy with the verb. In such cases, the argument of the preposition is an argument that occurs in the LS of the verb. In Fillmore's terminology, it is an argument that occurs in the semantic frame of the verb. A rather striking example Jolly gives is the following (with the verb's LS listed below):

(14) Rita walked from the school through the park to the store.

[DO(Rita,[**walk'**(Rita)])] CAUSE [[BECOME NOT **be-at'** (Rita,school)] & [BECOME **be-via'**(Rita,park)] & [BECOME **be-at'** (Rita,store)]]

She claims (for English), 'Semantically, all motional accomplishment verbs have a valence of four,' though only the agent and goal or source must be specified.[11]

The second are those prepositions for which the LS shows they share an argument with the verb. An example are benefactive constructions in which the benefactee is at some point in the LS marked as possessing the theme. She gives the following example:

(15) John baked a cake for Mary.

[DO(John,[**do'**(John)])]CAUSE[BECOME **baked'**(cake)] PURP [BECOME **have'**(Mary,cake)]

11 Note that when *walk* occurs in English without a goal or source it is an activity rather than an accomplishment verb.

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Finally there are the adjunct or predicative prepositions that 'take the entire LS of the verb as one of their arguments.' Her example is the following:

(16) John prayed before noon.

[before'[DO(John, [pray'(John)])],noon)]

These concepts from RRG and Frame Semantics will figure prominently in chapter 2 and will turn up in other portions of this study, as well. These approaches to the issues presented here do not involve the kind of abstractions that might obscure the presentation of data from a relatively unknown language. Rather, I'm convinced they will provide insights into the structure of Tepehua that wouldn't be possible within any other framework.

1.4 A note on orthography

A number of traditional short stories as well as a translation of the Gospel of Luke have been published in Tepehua but there is no official standard orthography. Rather than giving the impression of a standardized Tepehua orthography in this study I have chosen to use basically traditional Americanist symbols for transcription. There is some divergence, however, largely for typographical reasons; especially note the following:

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(17)/'/ glottal stop (and glottalization of oral stops)

/c/ alveolar affricate

/č/ alveopalatal affricate

/š/ alveolar fricative

/ɬ/ lateral fricative or voiceless lateral (see discussion in Appendix)

V: long vowel

The other symbols are self-evident.

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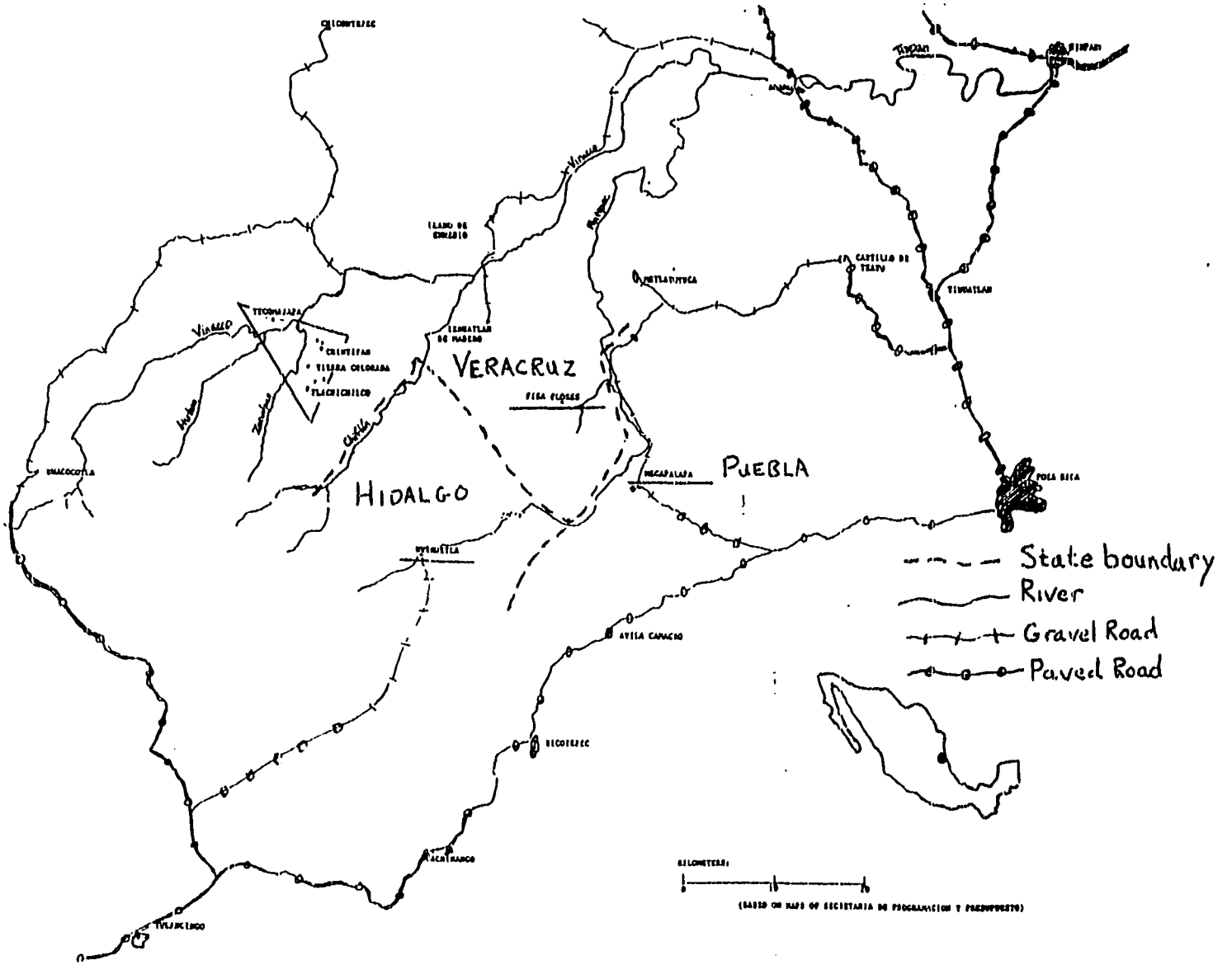

37a

2. The verb and verb phrase

In this chapter I will present the structure of the Tepehua verb and the formal and semantic properties of the verbal affixes and adverbs. In the first section I will present a semantic classification of Tepehua verbs that corresponds in part to formal distinctions in word-formation. The second section discusses some of the issues in Tepehua verb-verb compounding, a process that is rather productive.

Sections 2.3 and 2.4 present the various derivational and inflectional processes that occur in the Tepehua verb. Besides the standard topics of voice alternations, tense and aspect, this includes various issues that parallel syntactic concerns in other languages: valence-increasing affixes that function like prepositions, adverbials, and regular and irregular person marking (paralleling standard and 'quirky' case assignment in other languages).

The last two sections of the chapter, 2.5 and 2.6, are the only ones that deal with constructions above the word level: the inifinitive construction and the adverbs.

2.1 Toward a classification of Tepehua verbs

In this section I will present a classification of Tepehua verbs based primarily on their semantics and secondarily on their syntactic specifications. The presentation here is rather crucial to other sections of this chapter. Issues regarding semantic and syntactic valence, constraints on compounding, co-occurrence

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restrictions on tense and aspect, interpretation of adverbials, and person marking all directly relate to the topics presented here.

The analysis is based on the Vendler-Dowty verb classification scheme presented in chapter 1, distinguishing verbs according to their inherent aspect: statives, acivities, achievements, and accomplishments.

As there are subclasses of stative verbs that have some relevance to the issues that come up here I will discuss further classifications of statives in the second part of this section, 2.1.2.

Finally, in 2.1.3, I discuss issues regarding predicate frames and the argument structures associated with them. This will have special relevance to issues of valence and person marking in later sections.

2.1.1 Inherent aspect

Within the Vendler-Dowty approach to verbal aspect a verb or verb phrase is considered a member of one class or another according to several tests. These include co-occurence restrictions with adverbs, tenses and aspects, as well as logical entailments. There is no claim made that the specific tests employed are to be universal; they are used only for setting up 'classes of verbs in English' (Dowty 1979:37). As might be expected, there are somewhat different tests in Tepehua that provide keys to such a classification. An example of such a test that I will refer to frequently below is the interpretation of a form when it

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occurs with the perfect aspect suffix -ta. Finally, it should be noted that in the following attempt to provide an further classification of Tepehua stative verbs I will assume the stage-nonstage and momentary-durative distinctions for stative predicates discussed in Dowty (1979:177-180).

2.1.1.1 Stative verbs

There is a class of stative verbs in Tepehua (and Totonac) that is morphologically distinct from every other verb class. They may occur only in the imperfective aspect and they undergo two unique derivatonal processes: an inchoative process, rendering achievement verbs, and a causative process, rendering accomplishments. For reasons to be discussed below, I will refer to these as stage-level statives. However, I will also present another set of stative verbs that does not share the morphological distinctiveness of the stage-level statives. I will try to show that the morphological distinction between these two classes of stative verbs parallels certain semantic distinctions. In particular, I will suggest that they reflect the distinctions between 'stage-level' and 'object-level' predicates as discussed by Dowty 1979.

2.1.1.2 Stage-level and object-level statives

There is a class of verbs in Tepehua that corresponds to what have traditionally been called stative verbs in Totonacan studies (Aschmann 1962, 1973; Reid and Bishop 1974). A few of these have only one argument in the LS.

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Following the discussion in Foley and Van Valin 1984 (see (3) in chapter 1), this argument is a patient:

(1) paca:-y 'X is being used, is occupied.'

paša-y 'X is changed, different.'

laqlti?a:-y 'X is open'

lakčahu:-y 'X is closed'

However, in their basic (non-derived) forms, they are primarily two- argument predicates, denoting the position of the argument. Thus, they have the following LS:

(2) be.at'(x,y)

where x is theme and y is locative. It is important to note, however, that these are all intransitive verbs, a point that will be discussed in 2.1.3.

The stage-level statives that have two arguments in their LS exemplify the stative version of Talmy's 'motion event' which 'consists of one object (the 'Figure') moving or located with respect to another object (the reference-object or 'Ground')'(1985:61). Compare the following example: 'oqsla:-y, 'X is on the surface (of something).' Here the first argument, the theme, is the Figure, the locative being the reference point or Ground. Actually, each verb of this type specifies the stative counterpart to Talmy's Path, i.e., the site or orientation of the Figure vis-a-vis the Ground. While such a 'conflation' has been reported for other American Indian languages, Talmy suggests it is rather rare:

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> This regular conflation of motion with path in these languages seems rarely to extend to any regular conflation of location with site -- i.e., to any basic system of distinct verb roots expressing 'be.in', 'be.on', 'be.under', etc...generally, these languages instead use some single form, roughly expressing 'be.at', in conjunction with a series of adpositions... (1985:142)

If Talmy's claim is true, Totonac-Tepehua is unusual in this way. Many verbs that exemplify the conflation of motion with path are derived from these stative verbs that conflate location with site. Thus, (as will be seen below) the predicate above, be.at', is intended as a generalization over the different orientations specified by each verb.

In Totonac-Tepehua, as noted above, the stage-level statives form what is morphologically the most distinct class of verbs. First, they may only appear in the imperfective aspect; i.e., they never occur in the perfective or perfect aspects nor in future tense:

(3) 'aknu:-y 'X is under the surface (of Y)'

'a:kyahu-y 'X is running (from Y)'

'aqta-y 'X is fallen (on Y)'

huk'aɬ 'X is above (on Y)'

kilta:-y 'X is hung up (on Y)'

ma:ɬ 'X is lying (at Y)'

'oqsla:-y 'X is on the surface (of Y)'

'uksc'uni:-y 'X is close (to Y)'

wi:ɬ 'X is sitting (at Y)'

ya:ɬ 'X is standing (at Y)'

lakč'ahu-y 'X is closed'

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laqɬti'a:-y 'X is open'

pa:ca:-y 'X is being used'

paša-y 'X is changed, different'

Thus, all but four of the forms cited have the imperfective suffix -ya; the other four forms, though not manifesting the imperfective suffix have, in fact, an imperfective aspectual reading.

Since these four verbs are by far the most frequently occurring of the stage-level statives, some of their peculiarities should be pointed out. First, while Tepehua morphology is for the most part neatly agglutinative in both derivation and inflection, these four verbs display marked irregularity in their inflectional paradigms (here arranged in the traditional rows of first, second, and third person and columns of singular and plural. The first person plural forms are inclusive; the exclusive is simply formed by prefixing k-. See 2.4.5):

(4) ma:ɬ 'lying'

kma:ɬ	ma:na-w
ma:t'i	ma:nan-t'ik
ma:ɬ	tama:na-l

(5) ya:ɬ 'standing'

kya:ɬ	ya:na-w
ya:-t'i	ya:nan-t'ik
ya:ɬ	taya:na-l

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(6) huk'aɬ 'be above'

kuk'aɬ huk'ana-w

'uk'a 'uk'anan-t'ik

huk'aɬ tawk'ana-ɬ

(7) wi:ɬ 'sitting'

kwi:ɬ wila:na-w

wi:ɬt'i wila:nan-t'ik

wi:ɬ tawila:na-ɬ

These four verbs are what are usually used in specifying the location of an object. Thus constructions in Spanish or English such as NP está LOCATIVE or NP is at LOCATIVE are generally translated into Tepehua by one of these forms. (Of course, the speaker can also specify notions such as be.in, be.under, etc., by one of the other stage-level statives above.) To say, for example, 'Here is my book' the usual forms are

(8) 'aniy ma:ɬ ki-libro or 'aniy ya:ɬ ki-libro

here lies 1POSS-book here stands 1POSS-book

It is definitely less usual (and not always possible) to use the general existential verb 'alin, 'is, exists', in such situations.

The second distinctive characteristic of the stage-level statives is that they serve as the base for two very productive derivational processes: inchoative and causative formation. The inchoatives of the above stative verbs are formed by adding the stem-forming morpheme, ta-.

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(9) 'aknu:-y 'X is underground'

--> ta:knu:-y 'X goes underground'

'a:kyahu-y 'X is running'

--> ta:kyahu-y 'X (starts to) runs'[1]

'aqta-y 'X is fallen over'

--> taqta-y 'X falls'

huk'aɬ 'X is up on something'

--> tawk'a-y 'X gets up on s.t.'

kiɬta:-y 'X is hung up'

--> takilta:-y 'X gets hung up'

lakčahu-y 'X is closed'

--> talakcahu-y 'X closes'

laqɬti'a:-y 'X is open'

--> talaqɬti'a:-y 'X opens'

ma:ɬ 'X is lying'

--> tama:-y 'X lies down'

'oqsla:-y 'X is on the surface'

--> to:qsla:-y 'X gets on surface'

pa:ca:-y 'X is being used'

--> tapa:ca:-y 'X works'

pašа-y 'X is changed, different'

--> tapašа-y 'X changes'

---

1 It may seem unusual to find a stative verb that translates as 'running' in English. This form, in fact, only occurs in the Tlachichilco dialect. In Huehuetla and Pisa Flores the common Totonacan form *cala-* is used, an activity verb. (A cognate stem occurs in Tlachichilco as an adverb meaning 'fast, quickly'.) As can be noted from the glosses here, the achievement form normally refers to the initiation of the running, the stative form to the on-going action. The stative form is often used to refer to someone who has 'run off' to another town, leaving his family.

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'uksc'uni:-y 'X is close'

--> ta'uksc'uni-y 'X gets near'

wi:ɬ 'X is sitting'

--> tawla-y 'X sits down'

ya:ɬ 'X is standing'

--> taya-y 'X stands up'

The causatives of the stative verbs are formed by adding the stem-forming prefix ma:- (though, again, the four most common stage-level statives (in (4)-(7) above) display somewhat unusual morphophonemics):

(10) 'aknu:-y 'Y is underground'

--> ma:knu:-y 'X buries Y'

'a:kyahu-y 'Y is running'

--> ma:kyahu-y 'X chases Y'

'aqta-y 'Y is fallen over'

--> ma:qta-y 'X knocks Y down'

huk'aɬ 'Y is up on something'

--> mu:k'a-y 'X puts Y up on s.t.'

kiɬta:-y 'Y is hung up on something'

--> ma:kiɬta:-y 'X hangs Y'

lakcahu-y 'Y is closed'

--> ma:lakcahu-y 'X closes Y'

laqɬti'a:-y 'Y is open'

--> ma:laqlti'a:-y 'X opens Y'

ma:ɬ 'Y is lying'

--> ma:ma:-y 'X lays Y down'

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'oqsla:-y 'Y is on top'

--> mo:qsla:-y 'X puts Y on top'

pa:ca:-y 'Y is being used'

--> ma:pa:ca:-y 'X uses Y'

paṡa-y 'Y is changed, different'

--> ma:paṡa-y 'X changes Y'

'uksc'uni:-y 'Y is close'

--> ma'uksc'uni:-y 'X brings Y near'

wi:ɬ 'Y is sitting'

--> mu:la:-y 'X sets Y down'

ya:ɬ 'Y is standing'

--> maqayahu-y 'X stands Y up'

No other verbs may serve as the base for the inchoative prefix2; and while nearly all verbs may be causativized with the prefix ma:-, it will be seen below that all verbs other than stage-level statives require lengthening of the final vowel (and often the dative suffix -ni).

2.1.1.1.2 Object-level statives

What I am calling object-level statives do not share the distinct derivational morphology of the stage-level statives but they do share important co-occurrence restrictions with morphological aspect. Thus, the object-level statives only occur in the imperfective aspect. However, unlike the stage-level statives, the same verbs may function as achievements and so occur in other aspects.

2 There is one set of exceptions to this statement: the 'verbs of destruction' discussed in 2.1.1.4.

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Thus, stage-level statives cannot occur in the progressive.3 Similarly, object-level statives, as such, cannot occur in the progressive. However, some of the same verbs that express object-level statives can be used to express achievements and so occur in the progressive. Unlike stage-level statives these verbs can function as achievements without any formal marker signifying achievement status:

(11) t'ahun k'aca:-na:
is know1-inf
'X is finding Y out.'
*'X is knowing Y'

t'ahun mispa:-na:
is know2-inf
'X is learning/meeting Y.' *'X is knowing Y.'

t'ahun alin-i:
is exist.there-inf
'X is coming into existence.' *'X is being there/here'

*t'ahun li:t'aw-na:
is have-inf
'X is having Y

The fact that this set of verbs may function as either statives or achievements without undergoing any explicit derivational process is a point we will return to in a moment. For now simply note that when they do occur in the progressive, they are not statives verbs but achievements.

3 It should be noted that Dowty (from a dissertation by G. Carlson) provides evidence that the English progressive occurs with statives only if they are stage-level predicates (e.g., 'The book is lying on the table.') and not if they are object-level predicates (e.g., 'New Orleans lies at the mouth of the Mississippi River.') In Tepehua, unlike English, the progressive may not occur with stage-level statives. Presumably this is because the stage-level statives already mark intervals that are shorter and have distinct boundaries and so there is no need to mark them by a special tense denoting 'containment-within-an- interval' (Dowty 1979:179,180).

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These verbs share another distinction with the stage-level statives: that of having a stative (i.e., non-iterative, non-habitual) interpretation in the imperfective aspect:

(12) k'aca:-y
know1 -impf
'X knows it'

mispa:-y
know2 -impf
'X knows Y'

čawa:ni -y
be.hungry-impf
'X is hungry'

taqan'a:n
be.sick(IMPF)
'X is sick'

c'anqa:-y
be.lacking-IMPF
'X is lacking'

ma:qama:-y
please-IMPF
'X pleases Y' ('Y likes X')

'iči-y
be.hot-IMPF
'X is/feels hot'

Another example of the alternation of the object-level statives between truly stative readings and achievement readings can be seen in their occurrence with the perfective aspect suffix. Recall that stage-level statives never occur in the perfective (except after having undergone an explicit derivational processes rendering them achievements). The verbs that make up the class of object-level statives may occur in the perfective; however, in the perfective they are achievement predicates.

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(13) k'aca:-ɬ
know1 -pftv
'X learned/came to know it'

mispa:-ɬ
know2 -pftv
'X became acquainted with Y'

čawa:ni-ɬ
be.hungry
'X became hungry'

taqan'a:-ɬ
be sick -pftv
'X became sick'

c'anqa:-ɬ
be.missing-IMPF
'X got lost'

Another example of a verb that functions both as a stative and as an achievement is 'alin, 'be, exist'. Like the verbs above, it has a stative reading in the imperfective aspect; and, like these, it functions as an achievement verb in the perfective. In fact, for the negation of 'alin in past time the perfective form is generally used rather than the imperfective (which is marginal at best). In the absence of negation, however, it is perfectly acceptable in its imperfective (stative) use:

(14) ha:ntu ka-'ali-ɬ tu'učun
NEG IRR-exist-PFV anything
'There wasn't anything (there).'

(15) ?? ha:ntu 'iš'alin tu'učun
NEG PT-exist(IMPF) anything
'There wasn't anything (there).'

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(16) šoqta 'iš'alin

everything PT-exist

'There was everything (there).'

As a stative verb, it is clearly an object-level stative, predicating the existence of its argument. In order to use it to designate the corresponding stage-level predicate (existence at a location or in a particular condition;see discussion below), it must occur as an achievement verb with the perfect aspect suffix, -ta, (which regularly allows achievement verbs in Tepehua to function as stage-level statives; see 2.1.1.3). It is in this form that it occurs in a typical construction used to ask the addressee, 'How are you?':4

(17) ta:s 'alin-t'a-t'ik

how exist-PF-2PLSUB

'How are you?'

Similarly, it is used in this form when referring to existence at a location of a specific referent. A signing off form that appears in several letters I've received demonstrates this:

---

4 This may be a calque from the Spanish, *como ha estado*. For completeness, I should mention that there is a frozen construction with the same greeting function that is especially used by old Tepehua men (note that I find it partly unglossable):

(i) ta:s č'ip'in-ča, ta:s čukuw
how arrive.there(2SUB)-already, how ???
'How are you?'

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(18) Wa:ču: Dios ka-ta-'aqteyhu:-n ni ta'an 'alin-t'a:-t'ik
also God IRR-3SUB,PL-help-2OBJ ART where exist-PF-2PLSUB

y wa:ču: Dios kin-ta-'aqteyhu:-n ni kehnan yu: aniy
and also God 1OBJ-3SUB,PL-help-2OBJ ART 1PLPRO ART here

'ihk-'alin-ta-w
1SUB-exist-PF-1PL

'Also may God help you(pl) where you(pl) are and also may God help us, we who are here.'

Here, as in the previous example, 'alin behaves as a typical achievement verb, having a stative interpretation with the perfect suffix, -ta.

Summarizing to this point, we find a key difference between stage-level and object-level statives. As noted earlier, for the verbs of the former type to be used as achievements, they must first undergo an explicit derivational process. Object-level statives, on the other hand, are expressed by verb roots that can also be used as achievements, without undergoing any previous derivational process. It is in their use as achievements that they may appear in the progressive and perfective aspects and with the future tense.

That there should be verbs that refer to states when occurring with imperfective aspect markers and to achievements when appearing in the perfective is not unusual. Compare the following well-known examples from Spanish which require distinct lexical items for their English couterparts (for more examples see Stockwell, Bowen and Martin 1965:137,8):

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(19) a. lo sabe 'X knows Y' (STATE)

lo supo 'X learned/found out Y' (ACHIEVEMENT)

(20) b. lo conocia 'X knew B'

lo conoció 'X met B'

There are, then, two major sublcasses of statives in Tepehua. It appears that the division of stative verbs in Tepehua into these two morphologically distinct classes reflects an important semantic distinction. The framework presented in Dowty 1979 provides a means of specifying this distinction. Dowty, after extensive discussion of an interval-based semantics (especially for predicates involving change of state) applies the distinction between interval and noninterval or 'momentary' predicates to statives. I'll try to briefly summarize the distinctions he presents between interval and momentary statives.

Interval statives, unlike momentary statives, refer to a distinct interval of time. That is, their truth conditions have strictly defined boundaries and usually shorter time periods. This is true of stage-level statives in Tepehua. Thus the sentences below hold true only for the period during which it is physically true that X is sitting, is underground, or is standing5:

5 Actually, in some cases (especially the four most ubiquitous statives discussed above) these statives can be given an object- level (or non-interval) interpretation. Thus (21) may mean 'My father lives there.' Dowty discusses the similar pattern in English ('He is lying there,' and 'New Orleans lies at the mouth of the Mississippi'; see fn.3)

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(21) 'anča wi:ɬ kim-pay

there sits 1POSS-father

'There sits my father.'

(22) wa: 'aknu:-y ni c'apul

FOC be.under-IMPF ART snake/worm

'The snake is underground.'

(23) Mi -wa:kaš ya:ɬ la: kin-kuštu

2POSS-cow stands PREP 1POSS-cornfield

'Your cow is in my cornfield.'

As Dowty points out, momentary statives don't manifest this strict semantic constraint involving an interval:

> To the extent that an interval of time could be said to be 'the' interval of their truth, it would seem to be (in most cases) only a large and vaguely defined interval...(1979:179)

We can see an example of such a 'vaguely defined interval' with the statives in these opening lines of a Tepehua story (the two statives are in italics):

(24) Qen-tawn šapay kun 'i-šanati ma: š-ta- ɬi:t'ahun
CLAS-one man and 3POSS-woman FOC PT-3SUB,Plhave(IMPF)

qen-tawn s- as'at'a, c'aɬ. Ni a:nčanu: šapay-nin
CLAS-one 3POSS-child boy ART those adult-PL

ma: la: iš-ta- pa:ška:-y ni s-as'at'a-k'an.
FOC very PT-3SUB,Pllove-IMPF ART 3POSS-child-PLPOSS

'A man and his wife had one child, a boy. Those folks really loved their child.'

The statives in these two sentences have truth conditions that are not characterized by such strictly defined temporal boundaries as those statives in (21) - (23).

Dowty goes on to point out that for interval statives, it is the property that the individual displays at the

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moment of reference that makes the sentence true, while for momentary statives

> it is really not a property that individual's current stage has at that moment that makes them true, but our 'total experience' with previous states of that individual...(ibid)

Thus the statives in the opening lines of the story are making assertions which relate more to the general characteristics of the participants rather than to a particular interval of time.

A parallel opposition between types of statives is also discussed by Dowty (drawing on work by G. Carlson): that between stage-level predicates and object-level predicates (the labels I'm using for the subclasses in Tepehua). A rough but useful rule-of-thumb in distinguishing these two is that stage-level predicates are more appropriate for properties involving physical criteria, while this is not the case for object-level predicates (the rule-of-thumb is also Carlson's, cited in Dowty 1979:129).

If we compare what I have presented as stage-level statives in (3) with what I'm calling object-level statives in Tepehua, we see that for the most part, the former are restricted to observable physical properties. On the other hand, the object- level statives in (12) generally do not refer to physical criteria.

It seems, then, that in Totonac-Tepehua the distinct morphological class of statives reflects a basic semantic classification: stage-level (or interval) predicates vs. object-level (or momentary) predicates.

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2.1.1.2 Activity Verbs

Unlike the statives discussed above, the activity verbs freely occur in the progressive in Tepehua (the suffix marked on the verbs is the infinitive marker; see 2.6):

(25)	t'ahun cihi-ni:	'X is laughing'
	t'ahun tapa:ca:-na:	'X is working'
	t'ahun ɬtana:	'X is walking'
	t'ahun laka:wa:na:	'X is looking'
	t'ahun 'ayn-a:	'X is growing'
	t'ahun wayn-a:	'X is eating'
	t'ahun čiwi:ni:	'X is speaking'
	t'ahun lakla:-na:	'X is moving/shaking'
	t'ahun saqna:	'X is getting firewood'
	t'ahun 'oq-nu:	'X is drinking'
	t'ahun milpa:-n	'X is singing'
	t'ahun ɬtata:	'X is sleeping'
	t'ahun p'aɬna:	'X is sweeping'
	t'ahun qama:n	'X is playing'
	t'ahun qaɬun	'X is crying'
	t'ahun sa:na:	'X is hitting'
	t'ahun šaqala:-na:	'X is talking to Y'

Like statives and unlike achievements and accomplishments, activities are atelic. And like both statives and accomplishments (but unlike most achievements) an interval of time is crucially involved. For this reason, there are many verbs that may be used in referring to

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either accomplishments or activities, depending on the context in which they occur.6

First, virtually any transitive verb that is most typically an accomplishment may occur as an activity if it is detransitivized by the antipassive suffix, -nVn (see 2.3.1.2). For example, maqni:-y, 'X kills Y' is clearly an accomplishment. Yet, as an intransitive verb, maqni:-nin, 'X kills', is no longer telic and patterns as an activity. In fact, the distinction between plain transitives and transitives with the antipassive suffix is neutralized in the infinitive; as a result the occurrence of an accomplishment verb in the progressive is potentially ambiguous between an intransitive activity and a transitive accomplishment:

(26) t'ahun maqni:-ni 'X is killing (it)'

t'ahun st'a-na: 'X is selling (it)'

t'ahun c'oq-nu: 'X is writing (it)'

---

6 The following discussion deals with the same issues as those regarding two oft-discussed aspectual distinctions in English, the first one involving sentences like the following:

(i) John was eating.
(ii) John was eating popcorn.
(iii) John was eating a bag of popcorn.

Here, (i) and (ii) are activities (both entail the truth of their corresponding sentences in the simple past) and (iii) is an accomplishment (it does not entail that *John ate a bag of popcorn* is true). For insightful discussion of these points and their linguistic relevance, see Mittwoch 1982.

The second issue, which will be discussed later (in 2.1.1.4), involves typical activities patterning as accomplishments and is the same issue dealt with in the literature regarding sentences like these:

(i) Joan was running.
(ii) Joan was running to the store.

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A verb that is typically an accomplishment can also pattern as an activity if it has a non-quantified direct object. Sentence (27a) is an accomplishment, while (27b) is an activity:

(27) a. ta-'u:-ɬ kim-pu:laqɬi

3SUB,PL-eat-PFV 1POSS-tamal(es)

'They ate my tamales.'

b. ta-'u:-ɬ pu:laqɬi

3SUB,PL-eat-PFV tamal(es)

'They ate tamales.'

This difference between the two leads to a difference in the reading of the completive suffix -'oho, as will be seen in 2.3.2.1.

The second sort of cross-over between the class of activity verbs and accomplishment verbs are instances in which a verb that typically an activity verb can be made telic and thus pattern like an accomplishment verb. I will discuss those cases in the following secion.

Besides occurring freely in the progressive, activities have a further aspectual distinction from statives: they may have a habitual or iterative interpretation in the imperfective:

(29) ɬi:ɬiy tapa:ca:-y

daily work-IMPF

'X works everyday'

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ɬi:ɬiy ɬtanan

daily walk(IMPF)

'X walks everyday'

One further point needs to be made. When activity verbs occur in the perfect in Tepehua, the interpretation is similar to the conventional notion of perfect: 'a past situation which has present relevance' (Comrie 1976:12). More specifically, one could use the notation of Reichenbach (1947:287-298) and say the perfect suffix with Tepehua activity verbs denotes (30a) when unmarked for tense and (30b) when occurring with the past tense prefix *is-* (where E marks the (temporal) point of the event, S the time of the speech-event, and R the point of reference):

(30) a. E -- S,R e.g., laqc'in-ta

see-PF

'X has seen Y.'

b. E -- R -- S e.g., 'is-laqc'in-ta

PT-see-PF

'X had seen Y.'

This interpretation of activities with the perfect aspect suffix, while seemingly unnoteworthy is crucially different from the perfect of achievements, as we are about to see.

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2.1.1.3 Achievement Verbs

In Dowty's schema achievement verbs have a semantic structure of a stative verb plus the operator BECOME. In Tepehua, all the inchoatives derived from stative verb stems by the stem-forming morpheme, ta-, would be included in this class. Thus,

(32)

STATIVE	ACHIEVEMENT	SEMANTIC STRUCTURE
wi:ɬ	tawla:-	BECOME sit' (x)
'X sits'		
ma:ɬ	tama:-	BECOME lie' (x)
'X lies'		
'aknu:y	ta:knu:-	BECOME under.surface' (x)
'X is under.surface'		

(see 2.1.1.1 for more examples)

There are also a number of other achievement verbs that begin with ta- and have a causative (accomplishment) form with ma:- but have no corresponding simple stative stem (these are all given with the imperfective aspect suffix):

(33)

ACHIEVEMENT	ACCOMPLISHMENT
tahu:-y go.down.in	mu:hu:-y put.down.in
talakapu:ta-y become.face.down	ma:lakapu:ta-y put.face.down (see 2.3.1.3)
tamakta-y become.finished	ma:makta-y finish
tanu:-y go.in(horizontally)	ma:nu:-y put.in(horizontally)
tasp'it-'a turn(intransitive)	ma:spit-'a turn(transitive)

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tapaqa'u:-y become.named	ma:paqa'u:-y name
taqan'a:-y get.sick	maqtaqan'a:-y make.sick
taqšto-'a get.together	maqšto-'a bring.together
tasu:-y appear	ma:su:-y make.appear
taštu-y go.out	ma:štu-y take/put.out

Though the above forms don't have the expected corresponding stative without the stem-forming morpheme ta-, a few few of them have corresponding statives that end in -n:

(34) tahu:n 'X is down inside'

tanu:n 'X is inside'

taqan'a:n 'X is sick'

We would expect the stative form for these verbs to be hu:-y, nu:-y, and qan'a:-y. While the first two do occur in various verb stems, they never occur as independent verb roots. The -n ending is limited to these few forms.

As noted above, the object-level statives (such as k'aca:-, 'know,' etc.) can pattern as achievements and so occur in aspects other than the imperfective. A number of other achievement verbs are derived from adjectives by the addition of the same stem-forming morpheme that occurs above, ta-, as will be seen in chapter 3.

Finally, as will be noted in the next section, a specific class of accomplishment verbs -- verbs of destruction -- form achievements by the addition of the stem-forming morpheme, ta-.

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Besides the derived forms above, there are nonderived achievement verbs in Tepehua. The primary test for distinguishing these from Tepehua activity verbs is the interpretation of truth conditions in the perfect aspect. Tepehua achievement verbs all have an inchoative meaning, marking the transition into a state. When an achievement verb in the perfect is predicated about some entity, the predication is true only so long as the resulting state continues; i.e., an achievement verb with the perfect aspect suffix has the temporal characteristics of a stage-level stative.

(35)	'ahu-y 'X gets wet'	'ahu-ta 'X is wet'
	'on 'X gets fat'	'on-ta 'X is fat'
	hun 'X becomes ___'	hun-i:ta 'X is ___'7
	ni:-y 'X dies'	ni:-ta 'X is dead'
	kuh-a 'X wakes up'	kuh-ta 'X is awake/alive'
	skaka-y 'X gets hot'	skaka-ta 'X is hot'
	piktahi-y 'X touches Y'	piktahi-ta 'X is touching Y'
	pakšan 'X waits for Y'	pakšan-ta 'X is waiting for Y'
	šiš-a 'X gets dry'	šiš-ta 'X is dry'
	č'apa-y taqan'a:ti 'X gets sick'	č'apa-ta taqan'a:ti 'X is sick'
	'oca:-y 'X gets full (from eating)'	'oca:-ta 'X is full'

7 This is the only verb where Tepehua has preserved the form of the perfect that is still found in Totonac: *-ni:ta*.

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The forms in the left-hand column (in the imperfective aspect) have the semantic structure BECOME predicate'(x) while those in the right-hand column (in the perfect) have the semantic structure of stage-level stative verbs, predicate'(x). As such, the perfect form of achievement verbs in Tepehua is true only as long as the achieved state continues.

As noted above, when activity verbs occur in the perfect, the interpretation is significantly different.

When achievement verbs occur in the perfective the interpretation is that typical of achievement verbs: the reference is simply to a past (change-of-state) event without implying that the resulting state continues. Thus, compare ahu, 'get wet', in each of the three aspects:

(36) 'ahu -y ni c'aɬ
get.wet-impf the boy
'The boy gets wet.' (iterative, habitual)

(37) 'aw -ɬ ni c'aɬ
get.wet-pfv the boy
'The boy got wet.' (though may not be wet now)

(38) 'ahu -ta ni c'aɬ
get.wet-pf the boy
'The boy is wet.'

Some of the peculiarities of two of the most common achievement verbs in Tepehua, min, 'come', and 'an, 'go', will be discussed in 2.1.3.

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2.1.1.4 Accomplishment Verbs

Accomplishment verbs in Dowty's system have the semantic structure ϕ CAUSE ψ, where ϕ and ψ are logical structures, ϕ an activity and ψ an achievement. Tepehua has a productive process of causative formation (see 2.3.1.1) and a large number of accomplishment verbs are derived. Many of these have already been seen in the discussion of statives and achievements, above.

Note that Dowty claims that in the semantic structure of accomplishment verbs CAUSE is a sentential connective linking two events rather than an abstract predicate expressing a relation between an individual and an event (as in Jackendoff 1983; see Talmy 1976 for a quite different approach that also views causation as a relation between events). As will be seen, such an approach best fits the Tepehua data.

Assuming this to be the case, then, we can say the implicit causing event patterns as an activity verb in Tepehua. In addition, the aspectual affix marks temporal aspects of the causing event rather than of the caused state or activity. This allows us to account for the interpretation of accomplishment verbs with the perfect suffix. Recall that achievement verbs in the perfect have a semantic structure identical to that for stative verbs, while activity verbs in the perfect have an interpretation similar to the conventional notion of perfect. With

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accomplishment verbs, even though the base is standardly a stative, or achievement verb, the perfect form is interpreted as it is with activity verbs. Compare the perfect form of the causatives below with the interpretation of the non-derived forms discussed above.

(39) ma: -skaka: -ta

CAUS-get.hot-PF

'X has heated Y' (i.e. sometime prior to the moment of reference, though Y may no longer be hot)

ma: -kuh -ta

CAUS-wake.up-PF

'X has woken Y up' (though Y may no longer be awake)

Recall that there is some cross-over between the classes of activity verbs and accomplishment verbs. As noted earlier, activity verbs, if made telic by some other clausal element, pattern like accomplishments. This includes cases such as the following:

(40) Juan łtana-ł la: 'iṡ-čaqa:

Juan walk-PFV PREP 3POSS-house

'Juan walked to his house.'

As an accomplishment, it has the following logical structure:

(41) [DO, (Juan,[walk'(Juan)])] CAUSE [BECOME be.at'(Juan,house)]

Notice, however, that this is different from basic accomplishment verbs like those discussed above in an important way: the agent- effector ('causer') and the theme

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('causee') are the same. It's for this reason that it seems somewhat odd to consider (40) an example of a causative, in the traditional linguistic sense. (In fact, Dowty suggests that for similar sentences in English the causal notion is reached by implicature. Even so, it would have to be conventional implicature and thus in some way an idosyncratic fact about the construction.) Nevertheless, such instances do manifest the key ingredients of accomplishments, a causing activity and a resulting state.

Another kind of instance in which activities pattern aspectually like accomplishments involves transitivity. Let's consider two of the verbs I listed earlier as activities: milpa:- 'sing' and čiwi:ni- 'speak'. They are both intransitive verbs.8 Yet, unlike most other intransitive verbs they can occur with a non-oblique NP -- a 'cognate object' -- and pattern as accomplishments:

---

8 As will become plain in the following sections, the distinction between transitive and intransitive verbs is much more straightforward in Tepehua than it is in English (or many other dependent-marking languages), where verbs like *eat* seem to behave either transitively or intransitively. Since the verb in a head-marking language like Tepehua can typically function as a full clause, transitive verbs invariably have a reading that includes a direct object, whether or not an explicit pronominal form or object NP is present (recall that third person singular arguments are unmarked). The only way a transitive verb root can occur in a clause with a reading without an object is if the antipassive suffix, *-nVn* is present. The two verbs under discussion here, like other intransitives, do not have readings with direct objects when they occur in isolation, and in this sense are typical intransitives.

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(42) miɬpa:-ɬ ti-tawn miɬpa:-ti

sing-PFV CLAS-one sing-NOM

'X sang a song.'

(43) čiwi:ni-ɬ tawn čiwi:n-ti

speak-PFV one speak-NOM

'X spoke one word/speech.'

It is important to note that while these clauses have the telic property expected of accomplishments I am not going to assign them the logical structure typical of accomplishments. Most significantly, unlike accomplishments, these verbs never occur with the antipassive suffix, *-nVn*, and thus apparently lack an undergoer (see 2.4). It seems more likely that the right account is that these are activities which are given a telic quality by a non-argument NP. This is similar to the analysis offerred by Halliday (1967) for parallel forms in English: these are instances of what he calls 'quantity range'. The NPs are what he calls 'pseudo-participants', as the semantic frame has only one participant, the actor, and a process. These quantity range NPs are not arguments, then; instead, they simply have the effect that 'the scope of the process is defined by a measure' (1967:58ff).

There is a semantically distinct class of accomplishments that displays somewhat peculiar morphology. Recall that the stem-forming morpheme, ta-, generally derives achievements from statives (and from some adjectives, as will be seen in chapter 3). The same

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morpheme, as we have seen, occurs in a number of achievement verbs that have no corresponding stative stem. It turns out that there is also a semantically-specified set of accomplishment verbs that are morphologically distinctive in this respect: they take ta- to form achievements. These are what I'll call verbs of destruction (again all forms are listed with the imperfective suffix).

(44) ACCOMPLISHMENT	ACHIEVEMENT
čе'e-y break/chip	tačе'e-y become.broken
'eš-a tear	te'eš-a, ta'eš-a become.torn
te'e-y break.across	tate'e-y become.broken
łqa:-y break.along/crack	tałqa:-y become.broken/cracked
łwaq-ya break.into.parts	tałwaq-ya become.broken.into.parts
la:qali:-y cause.to.malfunction	taqali:-y become.malfunctioning
laktili-y mess.up	talaktili-y become.messed.up
puhnun cause.landslide	tapuhnun cave.in

We can then summarize the effects of the stem-forming inchoative prefix ta- with (stage-level) statives, some adjectives, and some accomplishments ('verbs of destruction') in the following way:

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(45) a.[X][vb.stat] --> [ta[X]]

state'(x,y) => BECOME state'(x,y)

b.[X][adj] --> [ta[X]][vb.intr]

state'(x) => BECOME state'(x)

c.[X][vb.tran] --> [ta[X]][vb.intr]

[do'(x)]CAUSE[BECOME damaged'(y)]=>[BECOME damaged'(y)]

The generalization that best captures the function of ta- is that it derives an achievement from another LS that contains a stative predicate.

With these 'verb of destruction', as with the stage-level statives, we have a semantically distinct class of verbs with a distinctive morphology. There are other instances in which such finer classifications of verbs into semantic classes is called for; not necessarily because they manifest distinctive morphology like the verbs of destruction or stage-level statives, but because they manifest distinctive syntactic properties. In the next section I will attempt such a (sub-)classification of the stative verbs.

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2.1.2 Further semantic classification

The establishment of semantic classes of verbs based on their inherent aspect provides an important framework for investigating other properties and is crucial within the framework of RRG. However, RRG makes claims regarding argument structure regarding finer distinctions among stative verbs. Since stative predicates form a crucial componenent of achievements and accomplishments, the claims here are significant.

While all two-argument statives are said to have theme and locative arguments, in the locative statives the theme is 'the first argument' (i.e., the one that ends up patterning as subject), while in perception, cognition, and possession statives the locative is the first argument. Furthermore, RRG claims that statives that have a single argument in their logical structure are examples of 'condition statives,' and their single argument has the semantic role patient. In this section I will survey some statives within this framework, demonstrating that it provides a functional classification scheme for Tepehua statives.

The stage-level statives and the object-level statives together form 4 subgroups: condition, existence, cognition/perception, and possession. Their logical structures will be briefly sketched in the remainder of this section.

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2.1.2.1 Locative statives

Many of the Tepehua statives, including most of the stage-level statives are locative statives. In an earlier study (Watters 1985) I mistakenly classified these as examples of what Foley and Van Valin 1984 call condition statives, claiming that they describe the condition or position of the argument. There are two factors that might lead one to such a conclusion within the framework of Foley and Van Valin 1984. First, these have only one syntactic argument; Foley and Van Valin claim that single-argument statives are condition statives with a patient argument. However, that is crucially a claim regarding the logical structure of the predicate and not necessarily one about its syntactic valence. Looked at more carefully, it is clear that there are two arguments in the logical structure of these verbs, as was shown in 2.1.1.1. Second, these verbs specify more than the location, or Ground, of an argument; they specify its orientation in relation to the Ground. This orientation might at first seem to fall under a broad reading of the label 'condition stative' but it is better seen as exemplifying the stative counterpart to Talmy's Path.

The logical structure of these verbs is **state**(x,y) in which *x* is the theme and *y* is the locative. Besides most of the stage-level statives listed above examples would include object-level statives, including the following three:

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(46) c'anqa:-y 'It is lacking'

'alin 'X exists, is'

t'ahun 'X is'

These last two are the existential statives: *'alin* 'there is' and *t'ahun* 'is.' As noted in the preceding section, *'alin* like other object-level statives, may occur in the perfective but only with an inchoative meaning:

(47) 'ali -ł

there.is-pftv

'there came to be'

In its customary imperfective form, it is a momentary, object-level predicate, referring to the existence of the referent with an implicit location. Its locative characteristic is displayed by the fact that it characteristically occurs with some locative deictic form or question word:

(48) to'oštayča 'alin min-kafe

where is(IMPF) 2POSS-coffee

'Where is your coffee?'

The other existential stative, *t'ahun*, is a stage-level predicate (thus an stage-level stative), referring to the current (temporary and usually proximate) existence of the referent and typically occurs only with an animate theme. Compare the following:

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(49) 'anča 'alin k'iw
there is(IMPF) tree/wood
'There is wood/a tree there.'

*'anča t'ahun k'iw
there is(IMPF) tree/wood
'There is wood/a tree there.'

'anča t'ahun hu:ki
there is(IMPF) horse
'There is a horse there (right now)'

'anča 'alin hu:ki
there is(IMPF) horse
'There is a horse there.'

Note again that *t'ahun*, like *'alin* has an implicit locative argument. There is, however, one special use of t'ahun that patterns as a condition stative with a patient argument rather than as a locative stative with theme and locative arguments. This is its use in the following question:

(50) wananah t'ahun mim-pay

still is(IMPF) 2POSS-father

'Is your father still alive?'

Thus not that there is no implicit locative here; the LS of the verb in this case, unlike the use of *t'ahun* above, has only one argument.

T'ahun may only occur in the imperfective and its most common use is as the tensed verb in the paraphrastic progressive. In this construction it is followed by an infinitive:

(51) t'ahun waya:

is-IMPF eat-INF

'X is eating.'

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t'ahun paṡa

is-IMPF bathe-INF

'X is bathing'

2.1.2.2 Condition statives

Condition statives are those statives that have only one argument in the logical structure. The claim in RRG is that this argument has the semantic role patient (and is, thus, the prototypical undergoer). Condition statives in Tepehua include the following mix of object-level and stage-level statives:

(52) taqan'a:n 'X is sick'

ṡka-y 'X hurts'

ċawani-y 'X is hungry'

'oca:-y 'X is satiated/satisfied'

paṡa-y 'X is changed'

paca:-y 'X is occupied'

łakċahu-y 'X is closed'

łaqłti'a:-y 'X is opened'

The fact that these have only one argument, a patient, will turn out to be of some significance in the discussion regarding argument structure in 2.1.3.

2.1.2.3 Cognition/perception statives

Unlike the condition statives, the cognition statives are two-place predicates:

(53) pa:stak-'a
think -impf
'X is thinking it.'

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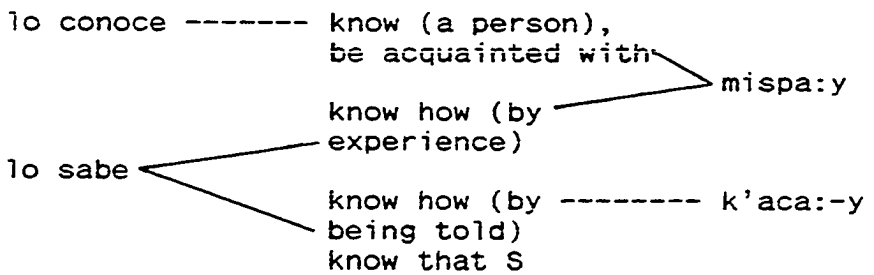
mispa:-y
know1 -impf
'X knows Y'

k'aca:-y
know2 -impf
'X knows Y'

ɬi:la-y
think.that-IMPF
'X thinks/believes that Y'

The two verbs translated 'know' parallel (but do not match) the difference between Spahish conocer and saber:

(54) **Spanish** **Tepehua**



The logical structure of these verbs is **know'**(x,y) where *x* is locative and *y* is theme.

Such assignment of semantic roles like theme and locative in a more abstract sense is often assumed in the literature, often on the basis of grammatical similarity with clauses containing more typical locatives and themes. Foley and Van Valin offer support for such an analysis of cognition verbs in English based on metaphors such as 'What's on your mind' and 'I can't get Mary out of my mind' (1984:49,50). Notice that this is not a claim that the logical structure proposed for such verbs arose as a result of such metaphors; rather such metaphors are a result of the sort of thing Whorf considered to be rationalizations of

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covert categories.[1] With this in mind, we can point out the existence of a 'thematic metaphor' (Lakoff and Johnson 1980) in Tepehua of the head as 'container/location of thoughts,' as in the following examples (see Lakoff 1987b for an account specifically discussing metaphorical use of semantic roles):

(55) la: p'a:s 'iš-aqc'uɬ, ha:ntu tanu:-y talani:ti
very hard 3POSS-head NEG go.in-IMPF learning
'X has a hard head, learning can't get in.'

(56) laq-ma:-laq-tanu:-ɬ 'iš-ha:tapa:stak'ati-k'an
3PLOBJ-CAUS-body-go.in-PFV 3POSS-thought-PLPOSS
'X put thoughts into them'; 'X persuaded them.'

(57) ki-ma:-nu:-ni-y lakɬkan-ti
1OBJ-CAUS-go.in-DAT-IMPF lie/gossip-NOM
'X put lies into me', 'X gossiped (about someone untruthfully) to me.'

The fact that the 'content' of cognition verbs as well as that of their causative counterparts --the verbs of communication --patterns as theme will be significant in 2.3.1.1, when we discuss the semantic relation of the argument of *-ɬi:-* when it occurs on these verbs.

---

[1] Thus Whorf suggested

> covert categories are quite apt to be more rational than overt ones...As outward marks become few, the class tends to crystallize around an idea--to become more depen dent on whatever synthetizing principle there may be in the meanings of its members... As time and use go on, it becomes increasingly organized around a rationale'([1936]1956:80,81)

In this regard, see the discussion in Silverstein 1979.

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Foley and Van Valin (1984:53) include cognition and perception stative predicates in the same subclass of statives that have locative and theme as their two arguments. It should be noted, however, that perception verbs in Tepehua are ambiguous in regards to agentivity. Thus, the following verbs can take agentive or non-agentive subjects:

(58) laqc'in 'X looks at/sees Y'

kiɬk'aca:-y 'X tastes Y'

qasmat-'a 'X hears Y'

'utahi-y 'X smells Y'

Like other object-level statives discussed earlier, these verb forms can also occur in tense-aspect constructions other than the imperfective, in which cases they have an achievement reading (the following examples occur with the perfective suffix):

(59) laqc'i-ɬ 'X saw Y'

qasmak-ɬi 'X heard Y'

As in the discussion regarding cognition statives above, such forms in English are argued by Foley & Van Valin to have locative subjects and theme objects based on arguments from such relations as revealed in common metaphors:

> We do not, however, normally speak of John's eyes seeing Mary's image or Mary's nose smelling John's odor, and consequently we will treat the source of the stimulus as the theme, and the person possessing the sense organ in question as the locative. (1984:49)

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In a footnote it is pointed out that 'it is quite conceivable that in languages spoken by members of cultures with a radically different concept of perception this analysis would be inappropriate' (379, fn.11). In fact, however, there is evidence for a similar 'concept of perception' among Tepehua speakers. Note the following examples:

(60) tus 'aniy kiɬ -čin /'anča kiɬ-ča'an
until here mouth-arrive.here /there mouth-arrive.there
'It can be heard this/that far.'
(lit., 'It's mouth-arrives-here/there)

(61) 'ayah ak'a-t'an
very nose-come(2SUB)(IMPF)
'You really smell/stink.' (lit., 'You come-nose.')

In (60) the source or stimulus is specified by a body-part (though it is also used to refer to mechanical noises and other such stimuli without a 'mouth'). Where it 'arrives' is specified by the verb root; i.e., the body-part refers to the subject of the verb. In (61), on the other hand, the location of the perception is specified by a body-part; the subject of the motion verb, however, is not the possessor of the body-part but the stimulus.

These are the standard ways of expressing what is given in the free translations (thus they are not perceived by my Tepehua consultants as some creative use of language). These examples very clearly parallel an analysis in which the stimulus patterns as theme and the perceiver is location.

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However, we when turn to vision, we find definite counter-examples to such an analysis of Tepehua perception verbs. Note the following verb:

(62) ha:ntu k-laka-ča'an

NEG 1SUB-eye-arrive.there(IMPF)

'I can't see that far.' (lit., 'I don't eye-arrive-there')

Here the body-part prefix refers again to the perceiving organ; however, unlike (61), the possessor of the body-part is the subject of the verb of motion. That is, the eye seems to pattern as theme and the stimulus as locative. The following forms present a similar pattern:

(63)	laka-'an	laka-min
	eye-go(IMPF)	eye-come(IMPF)
	'X looks that way.'	'X looks this way.'

It might be argued that these forms are specifically used to refer to 'how far' the subject is able to see or in what direction and thus, most naturally, the sighted object is the locative. Nevertheless, if we follow the argumentation in Foley and Van Valin 1984, such forms are the most natural sources of evidence for the semantic roles in visual perception verbs, including the standard form *laqc'in*. The problem this might present within RRG is that in a non-agentive use of this verb, the subject would be theme and the object would be locative. If we assume the verb has both actor and undergoer macroroles, we're faced with a problem: our constraints don't allow us to assign (non-agentive)

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theme to actor.[2] It seems we simply have to abandon the 'external' evidence of metaphor for semantic role assignment in this case and stipulate the perceiver is locative as with other perception verbs.

2.1.2.4 Possession stative

There are three statives denoting possession in Tepehua. The first two are an object-level stative, *ɬi:t'ahun*, and a stage predicate stative, *ɬi:cuk'u-y*. They are both derived, the former from *t'ahun* 'is", the durative existential discussed in 1.1.2 and the latter from *cuk'u-y*, 'begin' by the addition of the prefix *ɬi:-* (see 3.1.3). The third is (probably only etymologically) derived from *'alin* by the addition of the unproductive causative prefix *maq-* and usually denotes (or perhaps implies) that the possessed

[2] It appears there may be some evidence that *laqc'in* may not, in fact, have two macroroles. As will be shown in 2.4, the antipassive suffix, *-nVn*, has the sole formal effect of deleting the macrorole that is not linked to subject position. Generally, that is, it can apply whenever a verb has both actor and undergoer macroroles to mark the undergoer as unspecified. However, *-nVn* may not occur with *laqc'in*; instead the only corresponding intransitive form is *lakawa:nan*, 'look'. In other words, it might be argued that *laqc'in*, like other forms referring to visual perception in Tepehua has only one macrorole - the undergoer. In its non-agentive use this results in the theme occurring as the subject. The other argument, then, is the locative which, though a core argument, is not assigned macrorole status. However, there a weakness as well as a distinct problem with such an analysis. The weakness is that the fact that *-nVn* can't occur with *laqc'in* may simply be due to the 'blocking' effect of the lexical item *lakawa:nan*. The problem is that such an analysis would introduce an unwanted complication into RRG. While I will argue later that there are numerous instances of derived verbs with one macrorole but two (or more) core arguments, this would be the only instance of an underived form in which there is only one macrorole but two core arguments. This would mean that its lexical entry would have to specify its transitivity twice: number of macroroles and number of syntactic arguments.

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item is not merely in the possession of the subject but belongs to the subject:

(64) ɬi:cuk'u-y tumin
have-IMPF money
'X has money (on him)'

ɬi:t'ahun tumin
have(IMPF) money
'X has money (not necessarily with him)'

maqalin ha:ka
have(IMPF) banana
'X has bananas (his own, probably 'home-grown')

As would be expected fron the discussion in the previous section, though the stative *ɬi:t'ahun* can only occur in the imperfective, the form *ɬi:cuk'u-* may occur in the perfective but only with the inchoative meaning 'begin, start to have':

(65) ɬi:cuk'u-ɬ tumin

have -PFV money

'X acquired money.'

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2.1.3 Frames and argument structure

It is important to notice that some of the claims made in the preceding section assumed the semantic valence of a verb could differ from its syntactic valence. Perhaps the clearest example in that section involved the locative statives. It was claimed that they have both a theme and a locative argument even though in their non-derived form they are syntactically intransitive. Their lexical structure, then, is claimed to be something like this:

(66) 'a:knu:- be.under' (x,y)

1

'oqsla:- be.on.surface (x,y)

1

I will follow Van Valin (to appear) by listing (when relevant) the transitivity of a verb by a numeral (0, 1, or 2) under its logical structure; thus, both of these verbs are marked as being intransitive. We assume that transitivity is something that must be specified in the lexicon for each verb.1

[1] However, I will deviate from Van Valin's formulation of transitivity, in which the numeral listed refers to the number of macroroles. Rather than the lexically specified transitivity referring directly to the number of macroroles I will follow the more traditional notion: the transitivity specified in the lexical entry refers to the verb's syntactic valence. In addition I assume that the number of macroroles is always equal to or less than the number of direct syntactic arguments. In the normal case, the number of macroroles (the semantic transitivity) and the syntactic transitivity are the same. However, there are instances of activities that may be morphosyntactically transitive (e.g., the English verb, *carry*). Yet, activities do not have an undergoer macrorole. Another set of verbs that are morphosyntactically transitive yet have one macrorole are what I'll call inverse verbs (see discussion below). In the case of inverse verbs, both their syntactic transitivity and their macrorole number must be specified.

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Having established that much, we can then determine which macrorole is present in the locative statives above. That it must be undergoer follows from a general constraint in RRG that restricts the actor macrorole to verbs that have an activity predicate in their LS: 'if the verb has an activity predicate [and, hence, by (3) in chapter 1, either an agent or effector argument] in its LS, the macrorole will be actor, otherwise undergoer' (Van Valin, to appear). With an undergoer macrorole, theme takes precedence over locative in the unmarked case. As the only macrorole, this argument then maps onto subject, giving us the correct surface forms:

(67) k-'a:knu:-y

1SUB-be.under-IMPF

'I'm down under.'

ta-'oqsla:-y

3SUB,PL-be.on.surface-IMPF

'They're on the surface.'

As will be seen in 2.3.1.1, the locative argument is only realized in one of two ways: (1) as the object of a preposition; or, (2), through the presence of an affix that increases the valence of the verb:

(68) 'a:knu:-y laka: t'u:n

be.under-IMPF PREP ground

'X is under the ground.'

'a:knu:-ni-y ni me:sah

be.under-DAT-IMPF table

'X is under the table.'

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(69) 'oqsla:-ni-y

be.on.top-DAT-PFV

'X is on the surface of Y.'

The function of this valence-increasing affix as well as others will be the topic of some extensive discussion in 2.3. For now, simply note that though locative statives have two semantic arguments, they have only one macrorole and hence a transitivity of one. The locative argument occurs as a syntactic argument of the verb only through derivation.2

I'll be referring to the distinctions between 'frame-internal' and 'frame-external' arguments and to that between core and noncore arguments throughout the following sections. The former terms are taken from Fillmore's notion of frames as discussed in chapter 1:

(70) a. A frame-internal argument is an argument whose semantic relation is fully dependent on the semantic frame established by the verb stem; i.e., it is in the LS of the verb stem.

b. A frame-external argument is an argument whose semantic relation is independent of the semantic frame established by the verb stem; i.e., it is in the LS of the verb stem.

---

2 I should mention here that the addition of this valence- increasing suffix does not result in an additional macrorole. These verbs continue to have only the U macrorole. As I will attempt to demonstrate in 2.3.1.1, though the presence of -ni typically signals marked undergoer assignment (i.e., U=locative rather than U=theme), in these cases the theme retains its undergoer status and the locative occurs as a core argument, though without macrorole status.

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Thus, recall that I claimed in the previous section that condition statives have only one argument in their LS and that its semantic role is patient. As a consequence of this fact, there is no 'extra' argument within the LS that the valence-increasing affixes can make morphosyntactically active. This produces the correct result that the dative affix *-ni* can only mark the presence of a 'frame-external' participant, specifically a benefactive argument, with such verbs:

(71) tapa:ca:-ni-l kin-kuku
work-DAT-PFV 1POSS-uncle
'X worked for my uncle'

and with some condition verbs (those which would have no felicitous interpretation with a benefactive argument) it can't occur at all:

(72) *taqan'a:n-i-y
be.sick-DAT-IMPF
'X is sick at/to Y'???

(73) *čawani-ni-y
be.hungry-DAT-IMPF
'X is hungry at/to Y'???

The distinction between core and noncore arguments is from RRG. As discussed in chapter 1, the notion of 'core' in RRG is a syntactic notion, referring to a 'layer' within the clause. Following Van Valin 1987 and Foley and Van Valin 1985 (and departing from Foley and Van Valin 1984), a core

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argument is a (syntactically present) argument that is in the logical structure of the verb stem.

Also I will be making reference to direct arguments of verbs. As noted in chapter 1, the arguments in the LS usually map onto one of the two possible macroroles, actor and undergoer, following the actor-undergoer hierarchy. The arguments that have macrorole status are the direct arguments of the verb. While other languages (such as Icelandic; see Van Valin, to appear) may have non-oblique core arguments that do not have macrorole status, the only direct core arguments that occur in Tepehua are those that assume macrorole status (and/or are realized as subject or direct object of the verb root; see below). Any core argument that does not map onto a macrorole syntactically licensed only by the presence of one of the valence-increasing affixes, which generally have a preposition-like function. Such an argument, then, I will refer to as an indirect core argument.3

In the following sections and chapters I will at times refer to a hierarchy that determines accessibility to subject position in Tepehua. Recall that the RRG notion of Pragmatic Pivot, which I am simply labelling 'subject', is a syntactic level notion. Since there is only one syntactic level, this is a unitary term. The macroroles function as an interface between the level of semantic structure and the

[3] Such an argument is not an oblique argument: it is not the object of a preposition and it can be marked by an object pronominal on the verb as well as occur as subject in a passive construction.

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syntactic level where 'subject' and 'object' are relevant notions. In Tepehua, as in all nominative- accusative languages, the highest-ranking macrorole maps onto subject position in the unmarked case. That is, we have the following ranking for accessibility to subject:

(74) Actor > Undergoer

This ranking is incomplete as it stands, however. While undergoer outranks the argument of a valence-increasing affix for subject position in an intransitive verb (see 'a:knu:niy, above), it is 'outranked' by the same argument with a transitive verb. If that verb then occurs in the passive-reflexive construction, the argument of the affix rather than the undergoer then functions as subject:

(75) li:-st'a:-ka-l 'aqš-kaw

DIR-sell-PASS-PFV CLAS-ten

'Ten pesos was it sold for'

Subject	Object	
Actor	Undergoer	łi:-
agent-source	theme	price(secondary theme)

(For convenience, I will at times by-pass the details of the logical structure and represent the arguments directly with the semantic roles they have by virtue of their positions in the logical structure.)

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This then suggests the following revised hierarchy for access to subject:

(76) highest macrorole > object of affix > undergoer

I specify 'highest macrorole' here, rather than actor, to account for those cases in which the sole macrorole is undergoer, in which case it outranks the argument of an affix (as in (68) and (69)).

However, there is still one more situation this hieararchy doesn't account for. The key factors discussed up to this point are central grammtical notions in RRG. However, a more oblique semantic/pragmatic factor also plays a role in determining accessibility to subject position.4 In a transitive clause, if one of the (non-actor) core arguments is first or second person it will always be marked by object proforms on the verb and as the subject of the passive construction. This is true whether it is the undergoer or the argument of an affix:

(77) ki-st'a:-ni-ye:'i

1OBJ-sell-DAT-FUT-2SUB

'You will sell her to me.' or

'You will sell me to him.'

(78) Pedro t'a:-laqc'in-a:-n ni Juan

Pedro COM-see-IMPF-2OBJ ART Juan

'Pedro with Juan sees you.' or

'Pedro with you sees Juan.'

---

4 See Zimmer 1988 for a parallel effect on the syntax by semantic/pragmatic factors: the determination of case assignment in French and Turkish.

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In both of these examples, the object marker for first or second person appears regardless of whether that argument is the undergoer or the argument of the affix. In the following form, we see that it is also the case that this argument becomes subject in passive constructions:

(79) st'a:-ni-k'a

sell-DAT-PASS(2SUB,PFV)

'You were sold it.' or

'You were sold to him.'

We then have the following hierarchy determining access to subject and object (i.e., the argument highest on the hierarchy is subject, the next highest is direct object):

(80) highest macrorole > 1/2 pers > arg of affix > undergoer

Finally, I should briefly discuss here the argument structure of a set of verbs that I will call 'inverse' verbs. These verbs display two outstanding peculiarities: they cannot occur in the passive-reflexive construction (as will be seen transitives and intranstives can otherwise freely occur in the passive) and they display a strange person marking, one that will be seen (in 2.4.5) to be just the inverse of the person marking on passives.

For most speakers the subject of inverse verbs can only be third person singular (i.e., unmarked). However, some speakers do accept (though marginally) other persons; in such instances the theme is clearly the subject:

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(81) ki-ma:qama:-y ki-ma:'ama:-y

1OBJ-pleas-IMPF 1OBJ-please(2SUB)-IMPF

'It pleases me.' 'You please me.'

I will argue that these verbs, though morphosyntactically transitive, have only one macrorole (undergoer). These are the only verbs for which the macrorole number (in addition to the morphosyntactic transitivity) must be specified (see fn.1, above). Thus the stative verbs below, though transitive, have only one macrorole. (That it is undergoer follows from the general nature of statives: the single macrorole of a stative is undergoer.)

(82) ki-ma:qama:-y stapu

1OBJ-please-IMPF beans

'beans please me/I like beans'

(83) ta-c'anqa:-ni-y tumin

3SUB,PL-lack-DAT-IMPF money

'they lack/are missing money'

There is nothing unusual about the mapping of their LS onto syntactic positions; it follows the standard axioms, the lowest semantic role mapping onto undergoer, and the highest (here the only) macrorole mapping onto subject. Thus the LS ams mapping for the clause in (83) can be displayed in the following way:5

[5] There is, in fact, one unusual feature of these inverse verbs. Those that have the dative suffix, *-ni*, do not involve a marked undergoer choice: the theme, not the locative is undergoer. This is unlike the usual function of *-ni* (marking locative as undergoer) and can be attributed to the lexicalization of these forms (and concomittant loss of a distinct function for *-ni*).

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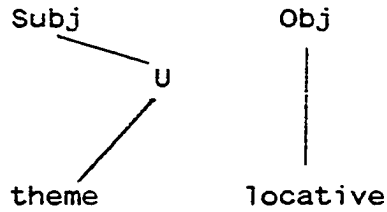
(84)



NOT be.at'(x,y)

The fact that the locative is encoded by the third plural subject prefix in (82) but by the first object prefix in (83) is shown to follow from this account in 2.4.5. Similarly, the fact that these verbs cannot occur with the passive-reflexive suffix, -kan, will be seen to follow from the fact that these are transitive verbs lacking an actor: briefly, though -kan may occur with intransitive verbs that have only an undergoer argument, with transitive verbs -kan always marks the actor as unspecified.

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2.2 Verb-verb compounds

Verb-verb and adverb-verb compounding are both relatively common in Tepehua. This section will present verb-verb compounding; adverb-verb compounds will be discussed in 2.5.3 and 2.6.

There are two major types of verb-verb compounds in Tepehua: right-headed compounds and left-headed compounds. As will be seen below, each type of compound presents specific constraints on the argument structures of the verbs involved.

The left-headed compounds are limited to verbs in which the second member of the compound is a stage-level stative (as discussed in 2.1.1) or a form derived from a stage-level stative. The right-headed compounds have no apparent grammatical restriction on the particular classes of verbs that may be involved, the constraints on compounding being primarily pragmatic. As will be shown, the only grammatical constraint in right-headed verb compounds involves the transitivity of the two verbs.

2.2.1 Right-headed compounds

Right-headed compounds frequently manifest an epenthetic [h]. This [h] occurs seemingly irregularly when the first member of the compound ends in a vowel or a nasal; in the latter case the nasal is lost and [h] appears in its place[1]:

[1] More accurately, the presence of the epenthetic [h] provides the environment for application of the rule of n-deletion (see Appendix).

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(85) miɬpa:+min --> miɬpahmin
sing+come come.singing

'ačan + čiwi:ni-y --> 'ačahčiwi:ni-y
smile + speak speak.smiling

miɬpa:+wi:ɬ --> miɬpahwi:ɬ
sing+sit sit.singing

Compounds in which the first member has the antipassive suffix, *-nVn* invariably display this epenthetic [h] (see also examples above):

(86) st'a:-nan + tawla-y --> st'a:nahtawla-y

sell-AP + sit-IMPF sell.sitting

(87) sk'in-nin + min-ta --> sk'inihmin-ta

request-AP+come-PF come.requesting

However, its occurrence in other compounds is somewhat erratic. The generalization appears to be that the more lexicalized the compound, the less likely the epenthetic [h] is to occur. In fact, for some speakers it is obligatorily absent from some compounds, including the following.

(88) st'a:+ɬa:'an-ta *st'ah+ɬa:'anta

sell+take-PF

'X goes selling Y.'

(89) t'ahqahu:+laka:wa:nan *tahqahuhlaka:wa:nan

tumble.down+look(IMPF)

'X is looking from top to bottom.'

Others allow alternate pronunciations of such forms, with or without the epenthetic [h].

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The most productive instances of right-headed compounding, however, appear to regularly require the epenthetic [h], as in the following forms:[2]

(90) sqoɬih+tapa:ca:-y

whistle+work-IMPF

'X works whistling.'

(91) miɬpah+skiti-y

sing+stone.grind-IMPF

'X grinds singing.'

The safest generalization, then, is the fairly vague one mentioned above: the epenthetic [h] occurs irregularly vowel- final and *n*-final members of right-headed verb compounds, tending to be more often present in productive forms.

However, a more restrictive account appears possible. We can posit two levels of compounding: level I ('tighter,' more lexicalized) compounds and level II ('looser,' more compositional) compounds.[3] In addition, a class of compounds that are simply idiosyncratic (and thus are listed in the lexicon without meeting the structural description of the expected lexical redundancy rules) must be posited that

---

[2] It should also be noted that vowel length is neutralized before a tautosyllabic [h]. For this reason, in following examples verb stems that otherwise end in a long vowel are not marked for length preceding the epenthetic [h] (e.g., *miɬpa:*, 'sing' but *miɬpa[h]*).

[3] Though clear evidence is lacking, it may be that what I'm calling level I compounds correspond to stratum I of the lexical phonology and level II compounds to stratum II. At least there is no counter-evidence that I'm aware of and the morphological facts are consistent with such a hypothesis.

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corresponds to neither level. The rule of h-epenthesis is then a Level II rule:

```
(92)  0/ --> C / V C] ___  [
                  |        stem
                  |
              [+nasal]
```

That is, a C is inserted following a V or a nasal C and preceding stem. (As will be seen in 3.4 this rule also applies in deverbal noun-noun compounds.) The realization of the unspecified C as [h] follows the standard default assignment of [h] in the lexical phonology (see Appendix).

There is independent support for the distinction between Level I and Level II compounds. Certain inflectional prefixes may occur on the second member of the compound only in Level II compounds. Thus in the following examples, the third person plural prefix *lak-* can appear either preceding the entire compound or the second member with a Level II compound. However, with a Level I compound it may only be prefixed to the entire compound:

Level I compounds:

(93) lak-st'a:+ɬi:min-ta pu:laqɬi
3PLOBJ-sell+come-PF tamales
'X comes selling tamales.'

(94) *st'a:+lak-ɬi:min-ta pu:laqɬi
sell+3PLOBJ-come-PF tamales

(95) lak-tapaca:+tawla-ni-y s-as'at'a-n
3PLOBJ-work+sit.down-DAT-IMPF 3POSS-child-PL
'X works sitting with his/her children.'

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(96) *tapaca:+lak-tawla-ni-y s-as'at'a-n

work+3PLOBJ-sit.down-DAT-IMPF 3POSS-child-PL

Level II compounds:

(97) laq-soqc[h]+čuk'u-l

3PLOBJ-hurry[h]+cut-PFV

'X cut them quickly.'

(98) soqo[h]+lak-čuk'u-l

hurry[h]+3PLOBJ-cut-PFV

'X cut them quickly.'

(99) lak-miłpa:[h]+tawla-ni-y

3PLOBJ-sing[h]+sit.down-DAT-IMPF

'X sits by his younger siblings singing.'

(100) miłpa:[h]+lak-tawla-ni-y

sing[h]+3PLOBJ-sit.down-DAT-IMPF

'X sits by his younger siblings singing.'

Similarly, only Level II compounds allow the first person subject prefix to occur either preceding the entire compound or preceding the second verb:

(101) k-paška[h]+laqc'in

1SUB-care.for+see

'I appreciate / am grateful to X.'

(102) paška[h]+k-laqc'in

care.for+1SUB-see

'I appreciate / am grateful to X.'

Two final comments regarding the distinction between Level I and Level II compounding are in order. First, It should be noted that the morphological-phonological

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distinction between the levels of compounding does not always correspond to a distinction between idiosyncratic and compositional semantics. While it is true that the novel or most productive examples are regularly instances of Level II compounding and display compositional semantics, there are various instances in which the semantics of Level II compounds may be less compositional than Level I compounds; thus, compare (101) and (95), above.

Second, while many compounds are obligatorily Level I or Level II and thus the epenthetic [h] is obligatorily absent or present, it should be kept in mind that there are some forms which allow alternate pronunciations.

The process of forming right-headed compounds appears upon initial inspection to be virtually unconstrained: one can go on eliciting a seemingly endless string of acceptable possibilities. The constraints are larglely pragmatic and in this manner parallel the conclusions reached in the literature regarding noun-noun compounds in English (Zimmer 1971, Downing 1977). The semantic-pragmatic constraints are somewhat tighter than those in English noun-noun compounds, however. Specifically, the first (non-head) member of the compound must modify the head verb, specifying the manner in which in which the action was carried out. Note the following examples:

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(103)a. 'alaw-ma:štu-y 'X takes out Y, stealing it'
steal-take.out-IMPF

b. č'aqš-p'uš-a 'X picks off Y, cutting it'
cut-pick.off-IMPF

c. miłpah-wahin 'X eats, singing'
sing-eat(intr)(IMPF)

d. miłpah-skiti-y 'X grinds Y, singing'
sing-grind-IMPF

e. takyaw-min 'X comes, running'
run-come(IMPF)

f. talaqsta-laka:wa:nan 'X looks, face upwards'
turn.face.up-look(IMPF)

g. pa:taštu:-laka:wa:nan 'X looks, from the bottom up'
ascend-look(IMPF)

h. t'ahqahu:-laka:wa:nan 'X looks, from the top down'
descend-look(IMPF)

i. sqolih-tapaca:-y 'X works, whistling'
whistle-work-IMPF

j. tapasa-'i:-y 'X got it, passing by'
pass.by-get-IMPF

In each of these examples, the verb on the left modifies the action denoted by the verb on the right. That these are, in fact, right-headed compounds is suggested by two facts. First, the standard translations for such forms into Spanish by native speakers of Tepehua parallel the English translations above. (Thus, (d) is translated 'lo muele cantando,' (e) is 'viene corriendo,' etc.) Assuming

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such translations reflect native speaker intuitions this clearly suggests that the head verb is the second member of the compound and the first verb specifies the manner in which the second action occurs.

Second, the structure and interpretation of these compounds exactly parallels that of the adverb-verb compounds (discussed in 2.5.3, below). The fact that those parallel adverb-verb compounds are clearly right-headed (the resulting compound is a verb) supports the analysis of these verb-verb compounds as right-headed. These parallel compounding processes can be pictured in the following way:

(104)

adverb	+	verb
verb		
MANNER		HEAD

That is, right-headed verb compounds can be adverb+verb or verb+verb, in each case the first member specifying the manner of the action denoted by the head verb.

The only structural constraint on right-headed verb compounding can be stated initially as the following:

(105) The modifying verb cannot be transitive if the head verb is intransitive.

Note the following pairs of forms:

(106) a. čaqṡ-łaː'an 'X goes along, cutting it'
cut-take(IMPF)

b. čaqṡ-'an
cut-go(IMPF)

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(107) a. ċ'an-łi:min-ta 'X is coming, planting it'
plant-bring-PF

b. *ċ'an-min-ta
plant-come-PF

c. ċ'a-nah-min-ta
plant-AP-come-PF

(108) a. sa:-nah-min-ta 'X is coming, beating/playing music'
hit-AP-come-PF

b. *sa:-min-ta
hit-come-PF

c. sa:-nah-łi:min-ta 'X is bringing it, playing/beating it'
hit-AP-bring-PF

(109) a. 'oq-łi:min-ta 'X is coming, drinking it'
drink-bring-PF

b. *'oq-min-ta
drink-come-PF

c. 'oq-nuh-min-ta 'X is coming, drinking'
drink-AP-come-PF

The (a) examples are acceptable since in each case, the transitivity of the head verb is equal to or greater than the transitivity of the modifiying verb. The (b) examples, however, are ungrammatical since the the modifying verb is transitive and the head verb intransitive. Note that in (108c) and (109c) the addition of the antipassive (AP) suffix , *-nVn*, makes the modifying verb intransitive, allowing it to occur with an intransitive head verb.

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Of course, we would like some explanation as to why a constraint such as that in (105) is operative in Tepehua. If we assume that all the syntactic arguments of each verb in a compound must be licensed syntactic arguments of the resulting compound, the constraint in (105) follows automatically, given the RRG conception of argument mapping. Regardless of how many arguments are in the LS of a verb, each argument can occur as a syntactic argument only under one of two conditions: (1) it maps onto a macrorole, or, (2) it is otherwise licensed by the syntactic transitivity of the verb -- in Tepehua this is only by the presence of a valence-increasing affix.

The head verb determines the transitivity of the resulting compound. Thus, the syntactic arguments of the modifying verb can only occur if they can map onto the macrorole positions of the head verb or are licensed by the presence of a valence-increasing affix on the head verb. The result is that an otherwise intransitive head verb must be 'transitivized' to occur in a compound with a transitive modifying verb; or, the modifying verb must be made intransitive.

The occurrence of the antipassive suffix in such compounds brings up another issue: the possibility of compounding verb stems with derivational affixes. The only attested derivational suffix that occurs on the first member of these compounds is the antipassive suffix, *-nVn*. The dative suffix, though ordered closer to the stem than the

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antipassive suffix (see 2.3.1), does not occur as freely on the modifying verb in these constructions. Thus the following two forms are judged as clearly ungrammatical:

(110) *miłpa:-ni+łi:min-ta 'X brings Y singing to him/her'
sing-DAT+bring-PF
*tapaca:-ni+ła:'an-ta 'X takes Y working for him/her'
work-DAT+take-PF

Both of these ungrammatical examples involve the benefactive, or frame-external (see 2.3.1.1.1) use of *-ni*.

On the other hand, the dative suffix can occur in its frame-internal use (registering an argument in the LS as a direct morphosyntactic argument) on the left-members of some compounds:

(111) laq-[šłaq-ni+ła:'an]-ta tumin
3PLOBJ-give-DAT-take-PF money
'X is going giving them money'

(112) kin-ta-[sk'in-i+łi:min]-ta
1OBJ-3,PL-request-DAT-bring-PF
'They're coming asking us for it.'

As will be shown in a later section (2.3.1), the argument associated with the dative suffix *-ni* normally occurs as the undergoer of the derived verb. However, the fact that these are right-headed compounds predicts that the undergoer of the compound verb must be the argument that maps onto the undergoer of the head, i.e., of the right-hand member of the compound. That this is, in fact, the case can be seen from the passive of a form like that in (iii):

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(113) [*ṡtaq-ni+li:min*]-kan-ta tumin / *lapanaki

give-DAT+bring-PASS-PF money / *people

'Someone comes, money is given to them.'

*'Someone comes, people are given it.'

Here the undergoer which occurs as subject in this construction is not what would be the undergoer of *ṡtaq-ni* in isolation, i.e., the goal; rather it is the undergoer of *ɬi:min*, the theme.

While the dative suffix apparently occurs on the left member of right-headed compounds only when marking frame-internal arguments, the prefixes on the left member of the compound are not so restricted. They are subject to no special restriction other than that implied in (105); i.e., they cannot increase the transitivity of the modifying verb beyond the transitivity of the head verb. Thus, though apparently a novel form, the following was considered grammatical with a parallel translation to that of (110), above (see 2.3.1.1 for a discussion of the distinction between *li:-* and *-ni*):

(114)-ɬi:-miɬpah-ɬi:min-ta 'X brings Y, singing to/about Y'

RS-sing-bring-PF

Other forms occur in which the prefix to the left of the first member of the compound is best analyzed as a prefix on the compound as a whole:

(115) 'iṡ-[pu:-[[*ċ'aqṡ*-nah]+[min]]]-ta

PT-MN- cut-AP +come -PF

'X came cutting by means of Y'

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Note that in (115) if the VIA prefix, *pu:-*, were part of the first member of the compound, this would be a counter-example to the constraint on transitivity; that is, the the first member (*pu:-č'aqš-nan*, 'cut by means of') would be transitive, and the the second member (*min*, 'come'), intransitive. If the constraint (105) is correct, *pu:-* here must be prefixed to the entire compound and not just the left member. This then predicts that a possible interpretation should be one in which the argument of *pu:-* is the means by which X came, which, in fact, is the case. The other interpretation is also possible, i.e., the argument of *pu:-* is the means by which cutting was done. Thus, morphologically, *pu:-* is attached to the entire compound but its argument can be interpreted as marking the means by which either action occurred.

Similarly, in (116), below, the (a) and (b) forms are considered roughly synonymous:

(116) a. Ni maestro laq-[šaqaqla:+li:-min]-ta ni s'at'a-n
the teacher 3PLOBJ-speak.to+bring-PF the child-PL
'The teacher comes, speaking to the children.'

b. Ni maestro lak-t'a:-[čiwih+min]-ta ni s'at'a-n
the teacher 3PLOBJ-COM-speak+come-PF the child-PL
'The teacher comes, speaking with the children.'

c.*Ni maestro lak-t'a:-[čiwih+li:-min]-ta ni s'at'a-n
the teacher 3PLOBJ-COM-speak+RS-come-PF the child-PL
'The teacher comes, speaking with the children.'

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In (a) both stems of the compound are transitive, *šaqala:*, being a transitive root, and *łi:-min*, 'bring,' derived from *min*, 'come'. In (b) both stems of the compound are intransitive, the comitative prefix, *t'a:-*, prefixed to the entire compound stem. In fact, it appears that the comitative prefix, the outermost ivalence-increasing prefix (see 2.3.1) is regularly interpreted as prefixed to the compound as a whole, rather than to the first member. Thus, in (c) the comitative prefix must be read as prefixed to the compound as a whole; this would then require that it have an object in the clause, presumably *ni s'at'an*, 'the children'. However, this would then mean that the head verb stem, the transitive *łi:min*, must refer to an additional object. As a result, the clause cannot have the intended reading.

As would be expected (and as already alluded to above), some compounds have very idiosyncratic interpretations. Note the following examples:

(117) a. pa:škah+laqc'in 'X appreciates, is gratefule to Y'
care.for+look.at(IMPF)

b. laqc'in+tanu:-y 'X investigates, examines Y'
look.at+enter-IMPF

c. pu:škaw+laqc'in 'X searches for Y'
look.for+look.at(IMPF)

d. čе'e+wa:-y 'X breaks Y and feeds Y to Z', or,
break+feed(<wa:wa:-)-IMPF more commonly, 'X gives Y to Z freely, as a gift'

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The form in (d), *ċe'ewa:-y* is only found in the Tlachichilco dialect. As noted, it is most frequently given the Spanish gloss, 'lo regala.' That this has wandered quite far from any compositional meaning is evident from the fact that the theme (the gift) may be any item, food or non-food, and is never understood to be 'broken.'[4] This constrasts with a parallel form that retains a purely compositional meaning:

(118) lakc'ak'a:+wa:-y

bite.into.pieces+feed-IMPF

'A feeds Y to Z by biting Y into bits.'

(As a mother feeding a tortilla to a baby)

As can be seen from the glosses, *wa:* (shortened from *wa:wa:*, 'feed'), is a ditransitive verb. (More specifically, it is a causative verb that is irregular in Tepehua generally, but especially so in the Tlachichilco dialect. See the discussion in 2.3.1.1.3.)

Turning from the least predictable compounds, the most productive and compositional right-headed compounds appear to be of two types: those in which the head is the transitive verb, *'i:*, 'get' and those in which the head is a verb of motion, especially either *min*, 'come,' or *'an*, 'go.'

---

[4] It should be noted that another verb form relating to eating also has a meaning that extends into other domains:

(i) t'a:-'u-y
COM-eat-IMPF
'X eats Y with/accompanied by Z,' but also,
'X shares Y (usually money) with Z.'

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Compounds headed by these two motion verbs merit special comment.

As is evident in many of the examples above, these two verbs often occur with the prefix *ɬi:-*, rendering them transitive. As will be discussed in 2.3.1, *ɬi:-* is a prefix that usually takes an argument with some specific semantic role. When it occurs with the verbs for 'come' and 'go', the resulting translations are usually 'bring' and 'take', the argument of *ɬi:-* being, in this case, the secondary theme. Hence the glosses given *ɬi:min* and *ɬa:'an* in the examples.

However, when *'an* or *min* occur as the head of right-headed compounds *ɬi:-* most often has the purely syntactic effect of increasing the transitivity of the head verb, thus meeting the constraint in (105). That this is the case can be inferred from the translations of the forms above; i.e., the subject is said to be simply 'coming,' not 'bringing' the object. It might still be argued, of course, that the object is being carried along while the subject performs the accompanying action. However, this can clearly not be true in the following sentences:

(119) maqataɬ+ɬi:min-ta wa:kax

throw.at+bring-PF cow

'X comes throwing (something) at the cows.'

(120) laqc'in+ɬa:'an-ta c'o'o-n

look.at+take-PF bird-PL

'X goes looking at birds.'

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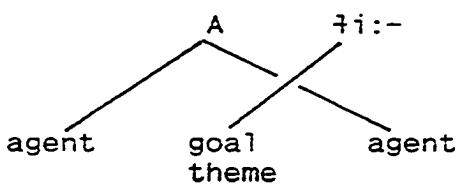
Clearly, then, the prefixation of *ɬi:* on the head of these compounds only serves the syntactic purpose of increasing the valence of the head verb and thus meeting the constraint in (105). It does not perform its usual additional function of assigning a semantic role to the object. In the framework adopted here this means that *ɬi:-* adds a macro-role to the transitivity of the verb but does not have assign a semantic relation to an argument. Thus we can account for the structure of *maqataɬ+ɬi:iminta* in (119) in the following manner:

(121) maqataɬ + ɬi:-min -ta



If the head verb did not have the *ɬi:-* prefix, it would be intransitive and would thus violate (105). The presence of *ɬi:-* results in a transitive verb but without introducing an argument in the logical structure.

Finally, note that there is evidence that right-headed compounding is a recursive process in Tepehua (though, of course, pragmatic constraints restrict the possible forms). Thus, there are instances of right-headed compounds filling the first (modifying) slot in a larger compound:

(122) [[čaqš+p'uš]+ɬi:-min]

[[cut + pick]+bring]

'X comes along picking Y by cutting it.'

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2.2.2 Left-headed compounds

The left-headed compounds in Tepehua, unlike the right-headed compounds, have a closed class of verbs that can occur in the post-head (modifying) position. Only the stage-level statives, discussed in 2.1.1, and their corresponding derived forms may occur as the second member of the compound.

There is some evidence that might suggest an alternative analysis, namely that this closed class of verbs are actually suffixes filling a position ordered after the antipassive suffix. In Totonac the standard translation of the Spanish progressive is a particular instance of what I'm calling left- headed compounds: the occurrence of the stage-level stative *ma:*, 'lie, be horizontal' (in its non-derived form). This fact lead me in earlier work (Watters 1985) to treat the four most common stage-level stative verbs as suffixes in such constructions. (The distinction between left- and right-headed compounds wasn't clear at that time.)

However, it has become evident that the entire class of stage-level statives and their derived achievement and accomplishment verbs can occur as the modifier in left-headed compounds verb-verb compounds. Note the following examples:

(123) laqc'in+tanu:-y 'X examines Y'

see(trans)+enter-IMPF

(124) maqni:-ma:-ɬ 'X kills Y laying it down'

kill-lay.down-PFV

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(125) škaw+kyahu-y 'X chases Y away'

(<akyahu)

search.for+run-IMPF

(126) škaw-knu:-y 'X searches for Y under ground'

(<aknu:)

search.for-be.under.surface-IMPF

(127) tapa:ca:+wiɬ 'X is sitting, occupied' (inanimate)

work+sit

(128) tapa:ca:-tawla:-y 'X works sitting down'

work+sit.down-IMPF

(129) maqni:+'ula:-y 'X sets Y and kills it'

kill+set-IMPF

The fact that the set of modifying (right-hand) members of the above is a closed class certainly seems to allow an suffix analysis rather than a left-headed compounding analysis. However, there are no other affix classes that are anywhere near as large as the class of forms that occur here and this would be the only class of 'affixes' that consists of otherwise independent verb stems.

Recall that in the right-headed compounds, the first member of the compound (i.e., the non-head) cannot exceed the transitivity of the first member. Since the second member of the left-headed compounds is a stative verb or an achievement or accomplishment verb derived from a stative, it may be intransitive or transitive. However, the same constraint applies here as applies with the right-headed

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compounds: the transitivity of the non-head cannot exceed the transitivity of the head verb.[5]

2.2.3 Summary

We can summarize the possible combinations of argument structure in verb-verb compounds in the following way (marking the head of the compound in bold print):

(130) Right-headed:

intransitive + **intransitive**

intransitive + **transitive**

transitive + **transitive**

*transitive + **intransitive**

Left-headed

intransitive + intransitive

transitive + intransitive

transitive + transitive

***intransitive** + transitive

The most obvious generalization is that which has been already established: the transitivity of the head verb must

---

[5] Note that since accomplishment verbs derived from statives can occur as the modifier in a left-headed compound, there will be instances in which it may appear that it violates the transitivity constraint; this is only a matter of appearance, however. Note the following forms:

(i) mi:ɬpah + ula:-y
sing + set - IMPF
'X sets Y, singing.'

(ii) maqni: + ula:-y
kill + set-IMPF
'X kills Y, setting it down.'

Though both forms have an acheivement verb derived from a stage- level stative as the right-hand member of the compound, only (ii) is a left-headed compound. The example in (i) is right-headed and so does not contradict the transitivity constraint (105).

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be greater than or equal to the transitivity of the modifying verb. Finally, it is also the case that any argument of the modifying verb is also an argument of the resulting compound verb.

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2.3 Derivational and inflectional morphology

While there is no cross-lingusitically fool-proof method for distinguishing inflectional and derivational morphology, there is certainly some intuitive idea of the distinction shared by most linguists (see discussion in Anderson 1985). Perhaps the most reliable criterion is whether or not the category is obligatory (Nida 1944, Bybee 1986). The verbal affixes I am classifying as inflectional in Tepehua are of the standard variety: person, tense, aspect, and mood. Every verb must be inflected for person and for some combination of the latter three, i.e., the temporal categories. Direction/location occurs here,as well. However, it is different from the other inflectional affixes of person and tense/aspect/mood: it is not an obligatory category; and, unlike the others, it is clearly (at least historically derived from) a type of nuclear juncture (see 2.3.1.6).

The other affixes, none of which are obligatory categories (i.e., they are not required to make a verb a grammatically full form), I am classifying as derivational.

There is a layering of affixes as shown by their occurrences in infinitive constructions. As will be shown in 2.5, infintive constructions involve a tensed verb (either a motion or existential verb) followed by the infinitive. In such constructions some affixes may only occur on the tensed verb, others only on the infinitive, and others on either or both. The affixes of the outermost layer must occur on the

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tensed verb in such constructions. These include all the inflectional suffixes and prefixes (except *ti-*, 'immanent' and *lak-*, 'third plural object'): the affixes of first and second person, third subject/plural, the plurality prefix, *ha:-*, tense and aspect markers, the irrealis prefix, as well as direction/location:[1]

(131) INFLECTIONAL PREFIXES:

TNS	STAT		ASPECT			
	ka-	k-	ti-	ta-	la:-	lak-
	IRR	1SUB	IMM	3SUB,PL	RECIP	3PLOBJ
'iṡ-	kin-					
PT	1OBJ					

[1] There are two contradicting facts regarding the layering of the affixes by their occurrence in the infinitive and their order relative to other affixes. The third person subject prefix, though inside the 'resumptive' prefix, may only occur on the tensed verb. The second person object suffix, though in the outermost order of suffixes, occurs on both the tensed verb and the main verb. Both of these exceptions reflect what might be considered a kind of subject-object asymmetry in infinitive constructions. In RRG this is attributed to the structure of core juncture which requires the sharing of an argument (most often, the 'pivot' or subject. I present the infinitive constructions as a type of core juncture in chapter 5.) In GB, of course, such an asymmetry would be accounted for configurationally.

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(132) **INFLECTIONAL SUFFIXES:**

ASPECT	DIR/LOC	TENSE	
-ya IMPPF	-chi HERE	p'i 2SUB,FUT	-t'ik 2PLSUB
-ta PF	-cha?a THERE	-w 1PLSUB	
	-ya: FUT	-n 2OBJ	

-łi:

1SGSUB/3SUB, PFV

-t'i

2SGSUB, PFV

The tense and aspect affixes are discussed in 2.4.1 and 2.4.2 and the locationals, "here" and "there," in 2.4.4. The interaction of the various person markers and their occurrence in passive and inverse-like constructions are covered in 2.4.5.

The derivational suffixes are ordered as follows:[2]

[2] As will be shown, the suffixes *-putun* and *-ċoqo* may alternate in order when co-ocurring (with resulting differences of scope).

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(133) DERIVATIONAL SUFFIXES:

```
lex. encdng
(nuclear)
argument ¦  core-level        ¦synt   ¦ clause-level
strux    ¦ adverbials         ¦encdng¦ adverbials
         ¦                    ¦       ¦
-ni¦-nVn ¦-'oho¦-putun¦-čoqo¦-kan   ¦-pal
         ¦                    ¦       ¦
DAT  AP  ¦  COMP  DESID  REP ¦ PASS-¦ AGAIN
                                REFL ¦
                                     ¦-'ela
                                     ¦
                                     ¦ SEQ
                                     ¦
                                     ¦-'ali
                                     ¦
                                     ¦ CONT
--INNER--¦   --- OUTER ---
```

The layering of the suffixes is shown by their occurrences in compounds as well as in infinitive constructions. The dative and antipassive can occur on the first member of a verb-verb compound and must occur on the main (infinitive) verb in infinitival constructions. The core-level and clause-level adverbials may occur on either the tensed verb or the infinitive or both. (Except the desiderative doesn't occur in infinitive constructions.) The passive, if present, must occur on both.

The distinction here between 'lexical encoding of arguments' and 'syntactic (or grammatical) encoding of arguments' will be made clear later on. Basically, affixes that involve the former register additional arguments in the logical structure of the verb that map onto the Actor-Undergoer macroroles. Affixes involving the former affect the morphosyntactic argument structure (i.e., what arguments

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appear as subject and direct object) but do not affect the assignment to Actor or Undergoer.

The derivational prefixes on the Tepehua verb generally occur in the following order:

(134) DERIVATIONAL PREFIXES

```
          advbl  synt     lex
           ¦     encding encding
           ¦      ¦\       ¦
           ¦      ¦  \     ¦
¦t'a:-¦ki:-¦pu:-¦ɬi:-¦ma:-
           ¦     ¦
           ¦pa:-¦

 COM   RET  VIA  DIR  CAUS
```

Exceptions to this ordering frequently occur, however: specifically, *ki:-* and *pu:-* occur in either order and *pu:-*, *ɬi:-* and *ma:-* occur in variant orders. Such variation is often due to the fact that one of the prefixes involved in the syntactic or lexical encoding of arguments has become lexicalized with the verb. Thus on different forms, *pu:-* or *ɬi:-* may become lexicalized with the stem and so, with such forms, always occur inside the causative prefix, *ma:-*:

(135) ma:-pu:-ma:'an-i-ɬ

CAUS-VIA-discard-DAT-PFV

'W caused X to pour Y into Z'

(136) ma:-ɬi:-ɬka:-y

CAUS-DIR-measure-IMPF

'X causes Y to save/set Z aside.'

While this lexicalization of prefixes with verb stems is the source of much of this variation in ordering, other variations are not clearly related to either the

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lexicalization of affixes with stems or to differing meaning. Thus the following forms have the same meaning:

(137) a. ma:-pu:-tapasa-y

CAUS-VIA-pass-IMPF

b. pu:-ma:-tapasa-y

VIA-CAUS-pass-IMPF

'X raises Y on Z.' or 'X causes Y to live on Z.'

Of the above prefixes only the causative must occur on the tensed verb in an infinitive construction, and so corresponds to the 'inner' derivational suffixes in (133). The others may occur on either verb, corresponding to the 'outer' derivational suffixes in (133).

In regard to the arrangement of verbal affixes in Tepehua it is important to note the following claim by Foley and Van Valin:

> ...the order of verbal affixes with reference to the verb reflects the scope relations of the operators they express. (1984:223)[3]

The full relevance of this claim can only be appreciated given the layered structure of the clause proposed by RRG and presented in 1.3.1. The derivational affixes that involve adverbial notions reflect such an ordering: the core-level adverbials occurring inside the clause-level

[3] Compare the following claim by Baker (which he argues need not be stipulated but follows, given certain notions within GB):

> 'Morphological derivations must directly reflect syntactic derivations (and vice versa).' (Baker 1985:375)

Baker's concern, however, is primarily with derivations that affect a verb's valence (e.g., causativization and reflexivization), rather than scope of tense/aspect/modality.

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adverbials. Further, it will be seen in 2.6 that nuclear-level adverbials when occurring within the verb are in the 'innermost' position: forming a complex stem within the verb. Similarly, the inflectional affixes match the scope of operators as proposed in RRG. Among the suffixes we found the aspect within directionals and aspect within tense; and among the prefixes we find aspect within status, which, in turn, is within tense.

Due to constraints of time and space, there won't be opportunity to fully investigate the claims of RRG regarding the scope of operators. However, here we see that the related claim regarding the ordering of the morphological processes which encode those operators is remarkably confirmed by the Tepehua evidence.

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2.3.1 Valence-affecting derivation

Tepehua has five verbal affixes that can have the effect of increasing the number of morph-syntactic arguments assigned to a verb. These vary in their productivity, as will be seen below. There are also two suffixes that are fully productive and have the effect of decreasing the morphosyntactic valence of a verb: the passive-reflexive and antipassive suffixes. Finally, a fairly productive process of body-part prefixation has an effect of 're-arranging' the valence of a verb, exemplifying what has become known as 'possessor ascension' in Relational Grammar.

2.3.1.1 Increasing valence

The five morphological processes discussed in this section all generally increase the morphosyntactic valence of a verb, each adding another argument to the argument structure. Thus when applied to an intransitive verb, the application of one of these processes renders a verb with both subject and object arguments. Similarly, when applied to a transitive verb, the result is a verb with three direct arguments. Though it appears that there is no grammatical constraint on the degree to which the valence can be increased, no forms with more than four arguments have been observed in texts and it is difficult to elicit forms with more than four arguments. The following example occurred unelicited in a written text (the four NPs in the English translation in bold print correspond to arguments of the verb in the Tepehua sentence):

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(138) wa: yu: iš-ta-pu:-tema:-ni-y tisunča taqan'a:-ti
FOC ART PT-3SUB,PL-VIA-find-DAT-IMPF what get.sick-NOM

'iš-łi:cuk'u-y
PT-have-IMPF

'...it was **what they** used to find out **(to him) what** sickness he had. (i.e., 'it was what they used to diagnose his sickness'

A key function of the valence-increasing prefixes is tied to relative clause and question formation. In Tepehua, only a direct argument of the verb can be relativized or be questioned Note the following examples:

(138')a. ni ka:roh yu: k-pu:-mi-ł, yu:ča wa: 'a-ł -ča

ART car REL 1SUB-VIA-come-PFV, 3PRO FOC go-PFV-now

'The car I came in, it's gone already.'

b. yu: kin-t'a:-mi-ł wa: ki-laqah

REL 1OBJ-COM-come-PFV FOC 1POSS-kinsman

'The one I came with is my relative(male).'

c. ta'ayu:ča łi:-čiwi:ni-y

who DIR-speak-IMPF

'Who is X talking about?'

Thus, in each of the examples above, while English can form relative clauses and questions on an the object of a preposition, Tepehua cannot; the element must be a direct argument of the verb. However, the availability of the valence-increasing prefixes allows for the same effect.

The analysis presented below treats three of the five valence-increasing affixes in a way that is formally almost identical to the RRG treatment of prepositions in English and other Indo-European languages. Unlike languages such as

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English, however, the functional equivalent of a PP can be morphosyntactically encoded on the verb; and what corresponds to the object of the preposition then occurs as the object of the derived verb. That is, in this account what occurs as an affix on the verb functions as if it were syntactically independent. The analysis presented here, then, is similar (at least in spirit) to the 'merger' analysis by Marantz (1984, 1985) or 'incorporation' account by Baker (1988) of applicative suffixes in Bantu or the analysis of 'relational preverbs' by Craig and Hale (1988). The two valence-increasing affixes that I am not treating in this manner are the causative and the dative, a point I will return to in a moment.

Following Foley and Van Valin 1985 I will distinguish between such morpho-syntactic encoding of arguments and lexical encoding of arguments. Simply put, lexical encoding of arguments involves affecting the logical structure in such a way that there is a shift in which arguments map onto the actor and undergoer macroroles. This, then, has only an indirect effect on which arguments show up syntactically in subject and object positions in the clause. On the other hand, the morpho-syntactic encoding of arguments directly determines the mapping onto subject and object positions in the clause (and has no effect on the mapping onto actor and undergoer):

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```
(139)                          SUBJECT      OBJECT
                             /
          syntactic         /
          encoding          \
                             \
                               ACTOR      UNDERGOER
                             /
          lexical           /
          encoding          \
                             \
                               LOGICAL STRUCTURE:[...............]
```

In Foley and Van Valin 1984 there is some discussion of serial verb constructions as found, for example, in West Africa. Such constructions serve to increase the valence of a verb by augmenting the logical structure with the result that the arguments map directly onto the Actor and Undergoer macroroles (following the Actor-Undergoer hierarchy). That is, these are instances of lexical encoding of arguments. This is syntactically the same type of construction that we find with verb-verb compounds in Tepehua. As I will show below, this is also the type of construction we find with the morphological causative and the dative construction in Tepehua.

Such serial verb constructions, then, directly increase the valence of the verb. Foley and Van Valin go on to note the following:

> It is very important to contrast clearly the valence-increasing function of serial verbs with the functions of the prepositions...Prepositions are not valence-increasing morphemes [in that their arguments do not figure into the mapping onto Actor and Undergoer macroroles of the verb]. They function basically as oblique case markers indicating that an NP is a[n indirect core or] peripheral constituent, as well as indicating the semantic function of the NP. The NP may function as an argument present in the logical

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> structure [i.e., an indirect core argument] or not [i.e., a peripheral argument]. (1984:206,7)

Three of the 'valence-increasing' prefixes in Tepehua, *-ɬi:*, 'direction,' *pu:-*, 'via,' and *t'a:-*, 'comitative,' while they do affect the syntactic valence of the verb, actually function like prepositions do in English. Like prepositions, they license the syntactic presence of their argument. Their arguments are not involved in the mapping onto actor and undergoer macroroles of the verb and thus are not examples of lexical encoding of arguments. However, morphosyntactically they behave like prepositions 'incorporated' into the verb. The fact that the argument of such an affix occurs as a direct argument of the verb follows from the percolation of features conventions as noted, for example, by Marantz[1]:

> That the applied object but not the root object becomes the object of the applied verb follows from the general feature percolation conventions of morphology (see Lieber 1980). since the features of affixes take precedence over the features of roots to determine the features of derived words, the object of the applied affix will become the object of the applied verb over the object of the root verb.(1985:159)

---

[1] A statement of such conventions can be found in Lieber 1981:

> Feature percolation conventions
> (10) Convention I: all features of a stem morpheme, including category features, percolate to the first non-branching node dominating that morpheme.
> (11) Convention II: all features of an affix morpheme, including category features, percolate to the first branching node dominating that morpheme. (167)

Baker's (1988) account of the same sort of 'preposition incorporation' is significantly different. The explanation for why the object of the preposition ends up as the object of the verb follows from his application of the empty category principle (see especially 288ff.)

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In spite of my wording (and my references to work by Marantz and Baker), it should be noted that such an account does not have to assume a derivational or multistratal account. In fact, there may be some reason to prefer a monostratal account. As will be noted below, the valence-increasing affixes (except for *ma:-*, 'causative,' and *-ni*, 'dative') can occur on the verb with a preposition (Tepehua, *laka:* or a Spanish loan) still preceding the NP:

(140) ɬi:-ya:ɬ ni laka: skue:lah *or* ɬi:-ya:ɬ ni skue:lah
DIR-stand ART PREP school DIR-stand ART school
'It stands over toward the school.

(141) t'a:'a-ɬ kun 'iṡ-laqah *or* t'a:-'a-ɬ 'iṡ-laqah
COM-go-PFV with 3POSS-kinsman COM-go-PFV 3POSS-kinsman
'He went with his relative.'

Such data suggest that it's not the case that there is a preposition which assigns a semantic role to the argument and then 'merges' with or 'incoporates' into the verb. Rather the semantic role associated with the prefix simply must be compatible with some argument within the clause (whether or not it is marked by a preposition). Thus, although I refer to my account as a 'preposition analysis,' I do not mean to imply they are *structurally* identical to prepostions; I am not positing a multi-level analysis in which the morpheme is a preposition preceding the NP at one level and is then incorporated into the verb at a later level. Rather, I am simply attempting to draw the *functional*

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parallel between such prefixes in Tepehua and prepositions in other languages.

Before going on, it should be noted that there are two types of motivation for my 'preposition analysis' of these verbal affixes in Tepehua. One is formal or theory-internal and the other involves two empirical arguments.

First, note the following examples:

(142) kin-čaqa: ɬi:-ya:ɬ ni skwe:lah

1POSS-house DIR-stand ART school

'My house is over towards the school.'

(143) ki-'ay-ni-ɬ kin-k'iw

1OBJ-grow-DAT-PFV 1POSS-wood

'My (load of) wood grew on me (so I can't get by).'

(144) kin-t'a:-'ay-ɬ

1OBJ-COM-grow-PFV

'X grew up with me.'

In each of these sentences, the argument associated with the valence-increasing affix is the direct object of the verb. That this is generally the case will be seen in the following sections. Now note that the subjects of these sentences have a semantic role of theme or patient. According to the Actor-Undergoer hierarchy these must map onto the undergoer macrorole.

However, as with any non-ergative language with what Foley and Van Valin call a 'pragmatic pivot', it is the highest-ranking macrorole that occurs as the subject in non-passive sentences. It then follows that in these examples

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the argument of the valence-increasing affix does not have macrorole status for the following reason. The argument of the valence-increasing affix is the object (not the subject) of the verb. This means that the other argument, the subject, must the argument with highest-ranking macrorole. However, it would be an infelicitous conclusion within the RRG framework (considering the semantic role of the subject in each of the above sentences) to assume the subject is actor; in each case the subject is a theme and thus should assume undergoer status. That leads to the conclusion that the object is not a macrorole argument. As noted earlier, the only way such an argument can occur syntactically is if it is licensed by either a preposition or a valence-increasing affix. In conclusion, then, the RRG framework forces us to treat the valence-increasing affixes in these examples in a manner parallel to prepositions: while their arguments may be included in the logical structure of the base verb they do not figure into the mapping onto actor and undergoer.

Note that at this point I am limiting my claim to examples such as those above. Later I will show that this 'preposition-like' analysis is consistently correct for the prefixes *ɬi:-*, *pu:-*, and *t'a:-*; they regularly involve a syntactic encoding of their argument. However, for the dative suffix, *-ni*, a different story will emerge. For cases in which its argument is frame-external (i.e., not in the LS of the base verb), as in the example above, it also has a

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preposition-like function. However, when it licenses the syntactic presence of a frame-internal argument, it does so indirectly. It encodes the fact that a non-theme or non-patient argument is undergoer, a marked choice. That is, it involves a lexical encoding of its argument.

Turning to the other motivation for my analysis, it happens that there are two types of (theory-neutral) empirical support for the conclusion that *ma:-* and *-ni* involve the 'lexical encoding' of arguments, while *t'a:-*, *pu:-* and *ɬi:-*, involve the 'syntactic encoding' of arguments. The valence-increasing affixes that mark the syntactic encoding of an argument differ from *ma:-* and *-ni* in several important ways.

First, as was noted above, the infinitival constructions in Tepehua display a layering effect in regards to the verbal affixes. Some forms must occur on the infinitive, others may occur on either the infinitive or the tensed verb, and still others must occur on the tensed verb. It turns out that verbs that form part of a verb-verb compound as well as the causative prefix, *ma:-*, and the dative suffix, *-ni*, must occur on the infinitive. The other valence-increasing prefixes, however, may occur on either the tensed verb or the infinitive. Since the causative prefix doesn't have a strictly fixed order with regard to the other valence-increasing prefixes, this can't be simply a matter of linear ordering. Given the formulation introduced above, however, this is exactly the kind of

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distinction we would expect: forms involved in the lexical encoding of arguments (causative, dative, and parts of compounds) must occur on the infinitive; forms involved in the syntactic encoding of arguments (other valence-increasing affixes) may occur either on the tensed verb or on the infinitive.

Second, as will be seen in chapter 4, the valence-increasing prefixes, unlike the dative suffix, *-ni*, may occur on nouns. It was this fact that led the mid-eighteenth century grammarian, Zambrano, to label the cognate Totonac prefix, *pu:-*, a 'preposition,'[2] while a form with the dative suffix in Totonac (also *-ni*), he called an 'applicative' construction.[3] Compare the following forms:

---

[2] His description is as follows (I follow his spelling):

> *Po:* esta preposicion dice lugar, en donde, y se diferencia de *Nac* [cognate to the Tepehua preposition lak(a:)]; porque esta cognota accion; antepuesta a los nombres, significa el lugar en donde ay, o se junta lo que el nombre significa: tambien se junta a los verbos, v.g. Po*an*, va en alguna cosa como a cavallo, o embarcado, &c. Siempre denota lugar en que se executa, o exerce la accion del verbo: mas con los nombres tiene el oficio, y significacion ya dicha, v.g. *Polachin*, lugar en donde ay presos; *Pochihuin*, lugar en donde se habla; *Potlin*, lugar en donde se canta; *Potantlin*, lugar en donde se bayla, *Pozcohni*, *Pogotno*, *Pocapznat*,*&c.* (Zambrano Bonilla: 115,116)

[3] Drawing a parallel to indirect objects, benefactives, and malefactives in Romance, He comments,

> El Aplicativo, se compone con la particula *Ny*, pospuesta a el verbo, que corresponde a el romance, *El, la, lo;* como de *Maxquiy*, dio, *maxqutniy* (sic), le dio; y entra muchas vezes con el romance, *El, la, lo*, el romance de *me,te,se* se le dio: passando la accion de la Persona, o cosa en dano, o provecho. (70)

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(145) 'is-t'a:-s'at'a 'iṡ-t'a:-lapana:ki

3POSS-COM-child 3POSS-COM-person

'his/her playmate' 'his/her relative

(usually='sister')

(146) ṡ-ɬi:-'aniy ṡ-ɬi:-yu:cha

3POSS-DIR-here 3POSS-DIR-3PRO

'over this way' 'therefore, for that reason'

(147) po:-'ay pu:-ɬman

VIA-big VIA-long

'wide' 'deep'

Third, the valence-increasing affixes involve the syntactic encoding of an argument occur with arguments that have a variety of semantic roles that are more removed from locative notions (e.g., purpose, cause, secondary theme, instrument, comitative; I will attempt to relate some of these to the strictly locative instances, however). Though besides its strictly spatial locative arguments, *-ni* does occur with benefactive and causee arguments, it is not too unusual to consider such as subtypes of locative-goal.

Fourth, the arguments of the prefixes are not affected by the presence of the antipassive suffix, *-nVn*; the 'unspecified' argument is the undergoer, not the argument of the prefix. For the few cases in which *-ni* can occur with the AP suffix, however, it is the argument of *-ni* that is marked as unspecified, again supporting the claim that the argument associated with *-ni* is undergoer.

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Fifth, many of the 'inverse verbs' (see 2.1.3 and 2.4.5) consist of a standard verb plus *-ni*. These three prefixes involved in morphosyntactic encoding of arguments do not take part in the formation of any inverse verbs.

Finally, forms with any of the three prefixes have Tepehua paraphrases in which the argument associated with the prefix is marked instead with the preposition *laka:* or a preposition borrowed from Spanish. Further, as noted earlier, these prepositions may co-occur with the verbal prefix. The argument associated with *-ni*, on the other hand, cannot be marked by a preposition. (An exception is the benefactive argument which can be paraphrased in Tepehua with the Spanish preposition, *para*, but it cannot be marked by both the preposition and *-ni* simultaneously.)

Some of these differences may well be related to the fact that *-ni* is morphologically an 'inner' affix, ordered between the stem and the antipassive suffix, *-nVn*, while there is evidence the three prefixes may be ordered after the affixation of *-nVn*. (See 2.3.2.1 for details.) Nevertheless, it is clear that for the valence-increasing affixes, the distinction drawn between lexical-encoding affixes and syntactic-encoding affixes is a valid one.

It should be pointed out that other than the causative, the valence-increasing affixes do not affect the aspectual class of the verb on which they occur. This is not always true of prepositions. Thus the presence of the prepositional

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phrase in (b), below, renders an accomplishment from what is otherwise an activity (a):

(148) a. John walked (for ten minutes/ *in ten minutes).

b. John walked to the store (*for ten minutes/ in ten minutes).

However, the valence-increasing affixes in Tepehua that involve syntactic encoding of arguments (i.e., all except the causative and dative) have no such effect. Thus, the presence of *t'a:-* in (a) doesn't affect the status of the verb as an activity, *pu:-* in (b) doesn't affect the status of the verb as an achievement; and *ɬi:-* in (c) doesn't affect the status of the verb as an activity:

(149) a. t'a:-čiwi:ni-y

COM-speak-IMPF

'X speaks with Y'

b. pu:-mi-ɬ

VIA-come-PFV

'X came by means of Y'

c. ɬi:-čiwi:ni-y

DIR-speak-IMPF

'X speaks about Y'

In contrast, the addition of the causative prefix, *ma:-*, of course, always results in an accomplishment verb.[4]

[4] I have no direct evidence regarding the effect of the dative suffix *-ni* on the verb's inherent aspect. It is in some ways more limited in distribution (it doesn't occur on the verbs given in (149)), so a full comparison isn't possible. When its argument is frame-external (not in the LS of the base verb), it doesn't have any apparent effect on the aspectual status of the verb. This certainly is the case in the following example, where it occurs on an activity verb:

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The discussion of these valence-increasing affixes will proceed in the following order. First, I will discuss four affixes that register the presence of an additional non-agentive argument. The first three to be discussed are *-ni*, 'dative,' *-ɬi:-* 'direction,' and *pu:-*, 'via' (2.3.1.1.1-2.3.1.1.3). I will suggest that each of these three affixes can be used to register the presence of either a frame-internal or a frame-external argument (see 2.1.3). I will also account for the semantic roles of the arguments associated with these three affixes by assigning them the three types of PATH proposed by Jackendoff (1983): bounded path (goal or source), direction ('toward' or 'away from'), and route (VIA). Note the following examples:

(150) ya:-ni-ɬ

stand-DAT-PFV

'X is standing at/next to Y'

(i) tapa:ca:-ni-ɬ kin-kuku
work-DAT-PFV 1POSS-uncle
'X worked for my uncle'

However, as noted earlier, if frame-internal, its argument regularly assumes undergoer status. If we assume with Foley and Van Valin 1984 that (1) a locative is only outranked for actor status by a theme if the theme is also the effector; and, (2) the definition of an effector is 'the first argument of a non-motion activity verb' (51); then, the verb in (ii) must have an activity predicate in its LS as its subject (and, hence, actor) argument is the theme and the undergoer is the locative:

(ii) ku:tanča kin-tiš taqta-ni-ɬ maqa-taun k'iw
yesterday 1POSS-uncle fall-DAT-PFV CLAS-one tree
'Yesterday a tree fell down on my uncle.'

This could only be the case if it is an accomplishment rather than simply an achievement like the base verb. However, I don't have data that clearly decides for or against such an analysis. See 2.3.1.1.1 for further discussion.

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(151) ɬi:-ya:ɬ

DIR-stand

'X stands towards/in direction of Y'

(152) pu:-ya:ɬ

VIA-stand

'X is standing on/in Y'

With stative verbs such as *ya:ɬ*, 'stand,' the arguments of these three affixes have semantic roles that are the stative counterparts of Jackendoff's 'bounded path,' 'direction,' and 'route': point of location, point of orientation, and location of containment. With verbs of (directional) motion these affixes more explicitly demonstrate Jackendoff's three types of PATH:

(153) štaq-ni-ɬ

give-DAT-PFV

'X gave Y to Z.'

(154) ɬi:-takyau-ɬ

DIR-run-PFV

'X ran toward/away from Y.'

(155) pu:-mi-ɬ Oxitempa

VIA-come-PFV Oxitempa

'X came by means of Oxitempa.'

However, it will also be seen that in each case the spatial orientation provided by these affixes is often mapped onto non-spatial domains. Thus, the following examples display the interpretation of *-ni* as a benefactive and *ɬi:-* and *pu:-* within a temporal domain:

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(156) tapa:ca:-ni-y ay lapana:ki

work-DAT-IMPF big person

'He works for an important/powerful person.'

(157) ɬi:-ċ'an Junio

DIR-sow June

'X sows/plants before (toward) June.'

(158) pu:-ċ'an Junio

DIR-sow June

'X sows/plants during June.'

The fourth affix that registers the presence of an additional non-agentive argument is *t'a:-*, comitative. The discussion of this affix will be somewhat briefer since it doesn't provide such a challenge to the establishment of meaningful generalizations as the three affixes mentioned above.

After having discussed the four affixes that introduce a non-agentive argument, I will go on to discuss the one valence- increasing affix that introduces an additional agentive argument, the causative prefix, *ma:-*. As noted above, while the other four affixes mark the morpho-syntactic encoding of arguments, this is the only affix that marks the lexical encoding of an argument.

2.3.1.1.1 Dative suffix *-ni*

The dative suffix, *-ni*, may well be the most frequent in occurrence of any of the valence-increasing affixes. Of the three affixes that register the presence of arguments instantiating the Gruber-Jackendoff PATH notion, the

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argument of *-ni* most closely resembeles what Jackendoff calls a 'bounded path,' i.e., source or goal. The purpose of this section is to present the data and develop this account in a more detailed manner.

The final account will claim that the presence of *-ni* signals what is usually a marked undergoer choice, specifically, that the locative argument is the undergoer. Further, it will be shown that it may register either a frame-internal or frame-external argument as a syntactic argument of the verb with the following restriction:

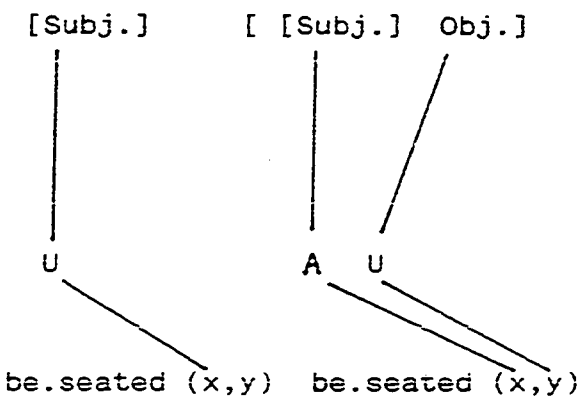
(159) *-ni* takes an argument with the semantic role of locative (goal or source); e.g., the second argument in **be.at'**(x,y) or NOT **be.at'**(x,y) or the first argument in (NOT)**have'**(x,y).

In its frame-internal use it marks that a salient participant in the logical structure of the verb functions as undergoer. In its frame-external use the argument associated with *-ni* marks the 'goal' in an extended sense: the benefactive. But first, consider the following examples:

(160) wi:ɬ *cf.* wi:ɬ -ni-ɬ

be.seated be.seated-DAT-PFV

'X is sitting' 'X is sitting by/at Y (X is animate)'



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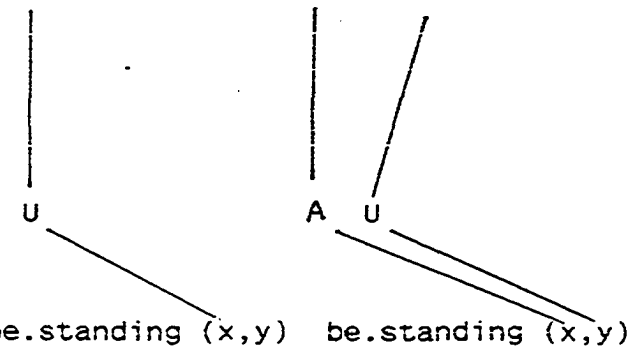
(161) ya:ɬ *cf.* ya:-ni-ɬ

be.standing be.standing-DAT-PFV

'X is standing.' 'X is standing at Y (X is animate)'

[Subj.] [[Subj.] Obj.]



These are stage-level stative verbs (see 2.1.1) and, like other verbs of that class, have both theme and locative arguments in their logical structure but are intransitive. Following RRG conventions, the single macrorole of an intransitive non-activity verb is Undergoer; and following the Actor-Undergoer hierarchy, theme takes precedence over locative in mapping onto undergoer. Finally, as is standard in non-ergative languages with a Pragmatic Pivot, the highest-ranking macrorole assumes subject status.

Then, as is clear in the above examples, with stative verb stems, the dative suffix allows the locative object to occur as undergoer, specifying the object by which or at which the theme is located. Here the claims of RRG make a striking --and correct -- prediction. As mentioned above, -*ni* marks the lexical-encoding of an argument: when its argument is frame-internal (in the LS of the base verb) it assumes undergoer status. If the locative argument is

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undergoer (and not subject) this predicts the subject must be actor. However, a theme cannot assume actor status unless it is also associated with some type of agency (or, at least, is an effector-theme; see fn.4). The prediction, then, is that the subject in the examples above with *-ni* must be agentive: a prediction that is correct. The subject of these forms (unlike the forms without *-ni*) must be animate.

As noted earlier, the argument of *-ni* is a subtype of locative, corresponding most closely to Jackendoff's bounded path, i.e., goal or source. With nonstative verbs, and more specifically verbs that specify a scene with directional motion, the argument of *-ni* is usually the goal. Thus note the following examples:

(162) ki-ma:č'iṡtaq-ni-ɬ

1OBJ-loan-DAT-PFV

'X loaned Y to me'

(163) ka-ɬa:-'an-i-ya-n

IRR-RSN-go-DAT-FUT-2OBJ

'X will take y to you'

(164) ki-st'a:-ni-ɬ

1OBJ-sell-DAT-PFV

'X sold Y to me'

(165) ka- k- ma:- su: -ni -ya -n

IRR-1SUB-CAUS-appear-DAT-FUT-2OBJ

'I will show X to you'

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(166) kutanča kin-tiš taqta-ni-ɬ maqa-taun pu:č'i-ni: k'iw
yesterday1POSS-uncle fell-DAT-PFV CLAS-onerot-NOM tree
la: 'iš-kafe wa: la-y 'iš-'aq-naq-ma:-ɬ
PREP 3POSS-coffee FOC able-IMPF PT-head-hit-lay.down-PFV
'Yesterday a tree fell down at/on my uncle in his coffee (field), it almost hit him on the head, laying him down.'

However, with verbs of motion that present a different perspective or framing, the argument associated with *-ni* can have the semantic role of source rather than goal:

(167) ki-ma:c'isk'in-i-ɬ
1OBJ-borrow-DAT-PFV
'X borrowed Y from me'

(168) ta'ayu:ča ki-'i:-ni-ye-'i
who IRR-buy-DAT-FUT-2SUB
'Who will you buy X from?'
(or 'Who will you buy X for?'-- see below)

(169) ma:kunu:+ma:štu-ni-n
deceive-take.out-DAT-2OBJ
'X took Y from you by tricking you'

There is another reading of *-ni*, paralleling that of 'source,' that occurs elsewhere: When an action is performed on part of an object, e.g. a body-part, the occurrence of *-ni* causes the possessor of that part to be marked as object. This is one of two instances in Tepehua of what is often referred to as possessor ascension in the Relational Grammar literature. (The other, as will be seen in 2.3.1.3, occurs in some examples of body-part incorporation.):

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(170) k- ma:štu -ni -ya -n mi-'ukšpu:

1SUB-take.out-DAT-FUT-2OBJ 2POSS-face

'I'll take your picture' (lit., 'I'll take out your face from you')

(171) ki- ška -ni -y ki-maka:

1OBJ-hurt-DAT-IMPF 1POSS-hand

'My hand hurts to me' (Cf., ška-y ki-maka:, 'My hand hurts')

(172) ki-šanati yu:ča aqlaqaw-ni-ya:-n min-c'al wa: ni:-l

1POSS-woman 3PRO dream-DAT-IMPF-2OBJ 2POSS-boy FOC die-PFV

'My wife, she was dreaming about your boy (that) he died.'

(173) kin-c'ał yu:ča če'e-ni-l 'iš-'uyuł 'iš-kuku

1POSS-boy 3PRO break-DAT-PFV 3POSS-pitcher 3POSS-uncle

'My son, he broke to his uncle his pitcher.'

(174) ke-s'at'a yu:ča la: pa:sni čuč'u-ni-y 'is-cik'i:ti

1POSS-child 3PRO very hard suck-DAT-IMPF 3POSS-breast

'iš-nati tejkan cik'i:n

3POSS-mother when nurse(IMPF)

'My son, he sucks his mother's breast very hard when he nurses.'

Finally, with any verb that allows the subject to have the semantic role of agent, the argument associated with *-ni* can be benefactive; this is regularly the semantic relation it assigns to a frame-external argument. Thus note (168), above, in which the interpretation is potentially ambiguous between a reading in which the object is source and one in which it is benefactive. Benefactive is the most common

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semantic role assigned the argument associated with *-ni* when occurring on an activity or accomplishment verb:

(175) ka-tapaca:-ni-ya-n

IRR-work-DAT-FUT-2OBJ

'X will work for you'

(176) ka-lak-maka:-ni-ya: 'aqa-taun skuela

IRR-3PLOBJ-make-DAT-FUT CLS-one school

'X will make them a school'

The notion of 'benefactive' in the linguistic literature is often associated with arguments marked by the preposition *for* in English or *por* and *para* in Spanish. However, it should be noted that translations of some such constructions into Tepehua would not use the dative suffix, *-ni*. As will be noted below, the prefix *ɬi:-* marks arguments as being the one 'on whose behalf' the action was taken as well as the 'reason for which' the action was performed. The benefactive argument associated with the suffix *-ni*, on the other hand, is in some sense the recipient of the action and thus parallels the notion of 'goal' discussed above. Thus compare the following two forms:

(177) ki-ɬi:-miɬpa:-ɬ

1SUB-RSN-sing-PFV

'I sang for (on behalf of) X' or 'I sang about X'

(178) k-miɬpa:-ni-ɬ

1SUB-sing-DAT-PFV

'I sang for/to X'

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From the preceding examples, it seems one could say that *-ni* simply increases the morphosyntactic valence of the verb, bestowing object status on an argument that is the goal or source of the action. However, there is another significant function of *-ni* not addressed thus far: its occurrence in causative formation. In this case, as with stage-level statives and their corresponding achievements, *-ni* does not increase the number of arguments in the logical structure of the verb. As will be shown in 2.3.1.1.3, the following rule generally holds: causatives formed on transitive verbs require suffixation of *-ni*. Thus note the following examples (the /i/ of *-ni* is lengthened due to the regular rule lengthening the final vowel of the stem in causatives of transitive and active intransitive verbs; see 2.3.1.1.3):

(179) ma:-st'a:-ni:-y

CAUS-sell-DAT-IMPF

'X has Y sell Z'

(180) ma:-puškaw-ni:-ɬ

CAUS-look.for-DAT-PFV

'X made Y look for Z'

In the examples above, the causative prefix *ma:-* increases the number of arguments in the logical structure of the verb by adding a causal agent to the argument structure. This is identical to the effect it has when it occurs on intransitive stems without the dative suffix:

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(181) ma:-ɬtata:-ɬ

CAUS-sleep-PFV

'X put Y to sleep.'

(182) ma:-kuhu:-ɬ

CAUS-awaken-PFV

'X woke Y up.'

In such forms the prefix *ma:-* adds the causal agent argument and no *-ni* is present. Assumming a unified account of *ma:-*, we can see that in (179) and (180) the base (transitive) verbs supply two arguments; *ma:-* registers the presence of the causal agent; the question then is what does *-ni* do in examples? If we were to maintain that the dative suffix in these forms has the effect of increasing the (semantic) valence of the verb, we would have to find four arguments: the two pertaining to the transitive stem, one for the causative prefix, *ma:-*, and another for the dative suffix, *-ni.* However, the regular interpretation of these forms involves only three arguments.[5] We would then be forced to give a disjunctive account for *-ni:* it increases the valence of a verb except when it occurs as part of the process of causative formation.

[5] There is, in fact, another possible (though unusual) interpretation with four arguments for a form such as (179): 'X has Y sell Z for Q.' This is actually an example of the benefactive (frame-external) use of *-ni* occurring along with the frame-internal use of -ni. In other words, for such an interpretation we might expect two *-ni*s to occur on the verb. What we have, then, is a sort of haplology. That is, the morphology does not allow an iterative application of suffixes, though a marginal yet possible reading is as if there were two *-ni*s present.

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There is a futher complication for the analysis of *-ni* in causative formation: while the various semantic roles associated with the argument of *-ni* presented above don't present an overwhelming problem for a unified analysis of semantic role assignment, the occurrence of *-ni* in causatives is somewhat problematic: what semantic relation does it assign? At first glance, it doesn't easily fit with any of the semantic roles occurring in the earlier examples -- general locative, goal, source, or benefactive.

A solution to a similar problem has been given within the framework of Relational Grammar, a solution that is related to the often observed fact that the causee is realized as a dative argument when the base verb is transitive. Aissen has argued that the suffix *-be* in Tzotzil, a Mayan language of Mexico, 'is a morphological reflex of the advancement of indirect object to direct object' (1984:281). Except for that fact that it cannot occur on intransitive verbs, it turns out that the *-be* suffix in Tzotzil is remarkably similar in function to the *-ni* suffix of Tepehua, suggesting a parallel solution is possible.

Following a similar approach we could claim that the suffix *-ni* in Tepehua marks advancement to direct object from indirect object. However, besides presenting certain problems in developing such an account in a Relational Grammar framework[6], this would require the positing of an

[6] For instance, the occurrence of the antipassive (AP) suffix, *-nVn*, with the dative suffix *-ni*, while unusual, is acceptable with some

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abstract level at which an indirect object is syntactically present which later 'advances' to direct object -- not a possibility in RRG.

Another possibility would be that *-ni* simply marks advancement to direct object of any argument that is not a direct argument of the verb stem. This is closer to the solution presented here; however, by itself this would be insufficient. Three of the four valence-increasing prefixes (i.e., all but the causative) involve 'advancement' of an argument to direct object status, yet none of these involve the occurrence of *-ni*.

The simplest analysis is one that is readily available within RRG and has already been mentioned: *-ni* signals a marked undergoer choice.[7]

Let's see how this accounts for the occurrence of *-ni* in the causative of transitive verbs. The causative prefix

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verbs. In such forms, the *-ni* would mark an advancement of indirect object to direct object -- and a concommitant demotion of the initial direct object to chomeur; then *-nVn* would put the derived direct object into chomeur. It then turns out that the initial direct object once again has the characteristics of a direct object, including person marking and advancement to subject in passives. Such a re-advancement from a 2-chomeur to 2 would violate the Chômeur Advancement Ban. Alternative analyses would either violate the Stratal Uniqueness Law or the Chômeur Law. This last possibility is suggested by Perlmutter and Postal for Kinyarwanda (Bantu), Pocomam (Mayan) and Dyirbal (Australian) and would involve the demotion of the initial direct object to indirect object when the AP suffix is present (1984:116-122). However, there is no evidence (except theory-internal consistency) that the demoted direct object in such constructions has indirect object status in Tepehua. In fact, unlike indirect objects, the direct object demoted by the AP cannot be present in the clause.

[7] This is the function of *-ni* when the associated argument is in the LS of the base verb. As mentioned above and further discussed below, *-ni* has a second function of encoding a benefactive argument as a direct argument of the verb.

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ma:- marks the presence of a causing event in the logical structure of the verb, and is thus an example of lexical encoding. Its argument -- the causer -- takes part in the assignment of the actor and undergoer macroroles, being assigned actor by the Actor-Undergoer hierarchy. If it occurs on an intransitive verb, the remaining argument, the causee, is assigned undergoer status. However, if it occurs on a transitive verb, there are two arguments besides the causal agent, only one of which may be assigned undergoer status. Now the hierarchy predicts that the 'downstairs object', i.e., the theme or patient, should occur as undergoer (cf. discussion in Foley and Van Valin 1984:102-106).

However, recall the other semantic hierarchy discussed in chapter 1 -- the Saliency hierarchy of Frame Semantics. The Actor-Undergoer hierarchy predicts which arguments will occur as actor and undergoer in the unmarked case; the Saliency hierarchy predicts which participants in a scene will be salient enough to occur as syntactic arguments of the verb. Thus each verb specifies a scene and selects certain participants as salient. One or two of these are realized as direct arguments, and are mapped onto the actor and/or undergoer macroroles (following the Actor-Undergoer hierarchy). As noted earlier, there is at times a tension between the two hierarchies in regards to which participant will occur as the undergoer. This is clearly the case with salient indirect objects: the theme/patient should occur as

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a direct argument (i.e., as undergoer) according to the Actor-Undergoer hierarchy; yet, according to the Saliency hierarchy, the more salient indirect object should most often occur as the direct argument. (No doubt this tension has something to do with the cross-linguistic ubiquity of 'dative movement' and similar constructions.)

In Tepehua the use of *-ni* in the causatives of transitive verbs is directly related to the resolution of this tension. Here the suffix *-ni* occurs when a highly salient participant is neither the unmarked actor nor undergoer: that argument is the marked undergoer choice.[8]

Consider the following example:

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[8] An account of why the causee is the undergoer when *-ni* is present might be based on the following seemingly uncontroversial claim by Talmy:

> The relation that the causing event's figure bears to the ground must be one of IMPINGEMENT: This must be interpreted appropriately for nonphysical events..., but, for the physical, it entails the exertion of force through a made or maintained contact. (1976:59)

Pushing this notion, one might claim the causing event is an event in which the causee is the locative (goal), and thus marked by the affix that encodes goal arguments, *-ni*. This would preserve a more uniform account of the semantic role of the argument associated with *-ni* as 'locative.'

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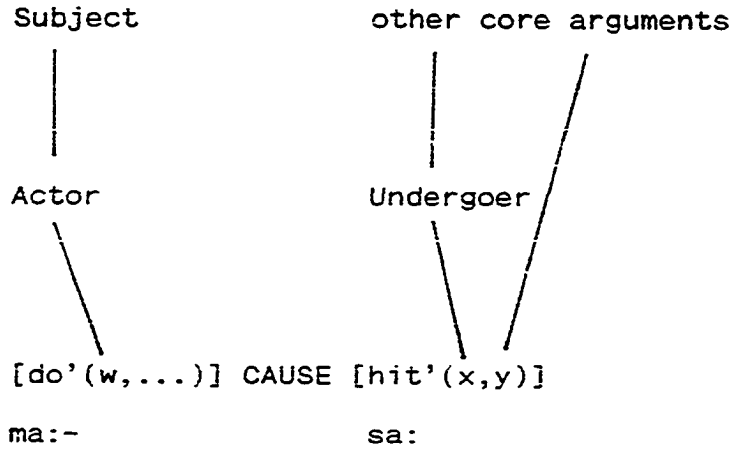
(183) ma:-sa:-ni-ł 'X made Y hit Z'

CAUS-hit-DAT-PFV



Following the Actor-Undergoer hierarchy, the causing agent is realized as the actor and the patient or theme should be realized as the undergoer. However, as predicted by the Saliency hierarchy, an agentive participant has priority to occur syntactically as a direct argument of the verb. This predicts, then, that in causatives the causee should occur as a direct argument of the verb; in RRG terms, it should assume macrorole status. This is, in fact, the case, and the marked undergoer choice is signaled by the presence of *-ni*.

Leaving the causative construction for now, we can further illustrate the function of *-ni* by considering those transitive verbs that involve some sort of exchange. Verb stems such as *st'a:*, 'sell,' *ṡtaq*, 'give,' *ma:ċiṡtaq*, 'loan,' specify a scene in which there is an agentive source, a theme, a goal, and, possibly, an exchange item. However, only the two macroroles are available. Following

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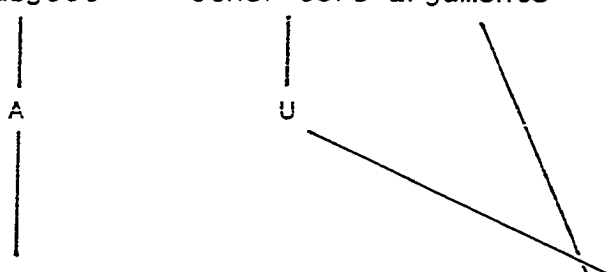
the Actor-Undergoer hierarchy, the agent-source must map onto Actor and the theme onto the Undergoer. For the goal to be realized as a morphosyntactic argument, it must occur as a marked undergoer choice, which triggers the presence of *-ni*. As such, it functions as the object of the derived verb (and is generally the subject in a passive construction; see 2.3.1.2):

(184) Subject other core arguments



[DO (x,[do'x])] CAUSE [BECOME be.at'(y,z)]

ṡtaq - ni

give - DAT

Other transitive verbs involving exchange specify a logical structure with an agentive goal, a theme, and a source (and possibly an exchange item). These include *i:*, 'get, buy,'[9] *ma:c'isk'in*, 'borrow,' and so on. These verbs select the agent-goal and theme as Actor and Undergoer, respectively.

[9] The Huehuetla dialect still uses the verb (cognate in Totonac) *tamahuy*, 'X buys Y'. In the Tlachichilco dialect, however, this form only occurs as part of the intransitive verb, *laktamo:nun*, 'X buys, shops.' There the verb *'i:-* is used both for 'X gets Y' and 'X buys Y'.

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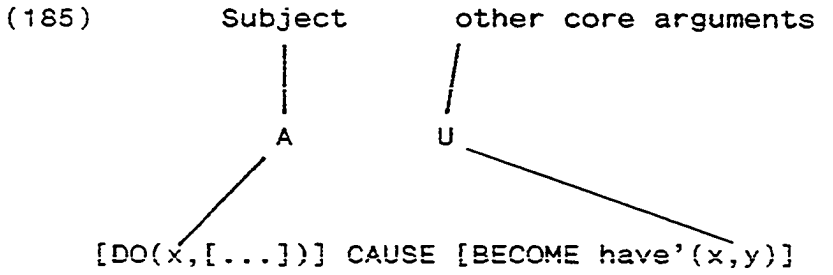
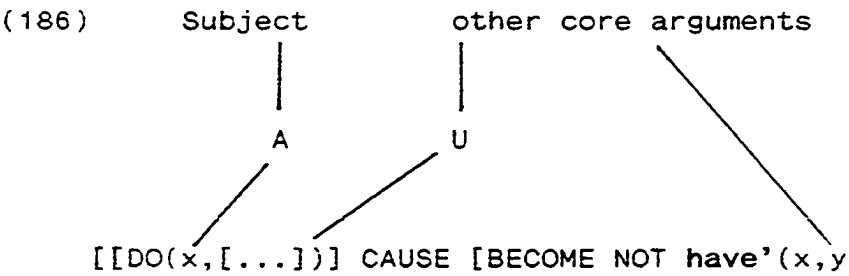
(185)



The occurrence of *-ni* on such verbs, then, can register the presence of another locative argument, such as the source or the benefactive. Thus *'i:-ni-* is ambiguous between the two possible readings:

(186)



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(187) Subject other core arguments

A U

[[DO(x,[...])] CAUSE [BECOME **have'**(x,y)]] CAUSE [BECOME **have'**(z,y)]

'i: -ni -y 'X buys Y for Z'

get/buy-DAT-IMPF

Non-stative intransitive verbs specify scenes with a variety of associated semantic roles. In the case of achievement verbs (with no activity predicate) the single macrorole must be undergoer. Thus the verb signifying 'motion out of' something (built on the root *(ta)ṡtu-*, 'exit') selects the theme as the single argument (the undergoer). For the locative argument to assume macrorole status, *-ni* must be present, since as shown above, it signals marked undergoer choice (here, that the locative is undergoer). Following the account given above, the other argument (theme) will then either be actor or not assume macrorole status. In fact, in this case, both possibilities exist. Compare the following forms:

(188) lak-taṡtu-ni-ɬ ni s'at'a-n

3PLOBJ-exit-DAT-PFV ART child-PL

's/he came out to the children'

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(189) ta-taštu-ni-ł hak'ałna

3SUB,PL-exit-DAT-PFV blood

'blood came out of them'

In the first example the locative-goal (*ni s'at'an,* 'the children') is marked on the verb by the expected third plural object marking, partly demonstrating its undergoer status. In this construction the subject must be animate. This fact follows, assuming the theme in this case is actor (and therefore agentive).

In the second example, however, the locative is marked by the prefix generally associated with third plural subject. This is one of the inverse verbs discussed briefly in 2.1.3 and further in 2.4.5. As can be seen, in this case the theme does not meet the animacy requirement found in the first construction; it is only a theme and, hence, cannot be the actor; it is, then, the undergoer. Where *-ni* occurs as part of an inverse verb, it does not have its usual function of marking the locative as the undergoer; rather, the suffix has become lexicalized with the verb.[10] It will be shown in 2.4.5 that while first and person person marking is sensitive to the syntactic status of the argument as subject vs. non-subject, third person plural is sensitive to the semantic status of the argument. This, it will be seen, accounts for the form of the third plural prefix.

[10] See 2.1.3, fn.5. This is not merely a ploy to avoid a problem by appealing to lexicalization. There is no question but that all the inverse verbs must be listed in the lexicon; they require irregular inflection. For all those inverse verbs that end in *-ni*, this means that the suffix must be listed as part of the verb.

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Finally, consider the activity verbs. Here there is no directed motion and *-ni* regularly occurs only on those verbs that specify scenes involving actions that can be done for someone's benefit. With such verb stems, the argument associated with *-ni* is regularly the benefactive:

(190) a. *miɬpa:-ni-ɬ*

sing-DAT-PFV

'X sang to/for Y'

b. tapa:ca:-ni-ɬ

work-DAT-PFV

'X worked for Y'

In the second example it might seem reasonable to list the benefactive -- the one worked for -- as part of the frame introduced by the verb and thus claim that the benefactive is a frame-internal participant. However, there are other instances of 'benefactive' arguments associated with *-ni* that aren't part of the verbal frame in any obvious sense, such as the example in (190a). These are what I'm calling frame-external arguments (see 2.1.3,above). The use of *-ni* with a frame-external argument is very productive. In each such case it marks the source or goal in an extended sense, including the benefactive and the 'possessor ascension' cases (also see (170) - (174)):

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(191) čaway ki-šanati ha:ntu=ča łtata-ni-y s-as'at'a
now 1POSS-woman NEG-already sleep-DAT-IMPF 3POSS-child

laka:=hułčłan, 'eš ha:ntu=ča ča:puh la-y maka:-y
PREP=day then NEG=already very able-IMPF do-IMPF

'iš-łi:lati laka:=kusinaj
3POSS-work/assignment PREP=kitchen

'Now my child doesn't sleep for his mother during the day, so she can't really do her work in the kitchen.'

As noted earlier, *-ni* doesn't generally change the (aspectual) class of the verb on which it occurs. Thus, when it occurs on an activity, as in the three preceding examples, there is no undergoer. The argument, then, is a direct syntactic argument of the verb but is not have macrorole status.

In summary, the dative suffix, *-ni*, has the following functions:

(192) a. It encodes the fact that a argument in the verb's LS (i.e., a frame-internal argument) other than theme or patient is the undergoer (i.e., marked undergoer choice)

b. It allows a benefactive or possessor (i.e., a frame-external argument) to occur as a direct syntactic argument of the verb.

Thus, its occurrence in causatives of transitive verb stems does not increase the number core arguments; rather, of the three arguments present in the argument structure, it signals a marked undergoer choice: the most salient indirect core argument (the causee) is undergoer.

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On the other hand, *-ni* is a true valence-increasing affix when it is associated with a frame-external argument. In such instances a bounded path (e.g., benefactive=goal, or possessor=source) that is not part of the verbal frame is made an argument of the verb.

Finally, note that this account makes two kinds of predictions. First, it predicts that -ni should not be acceptable when two conditions are met: (1) the verb it occurs with has no participant in its frame that can be associated with *-ni*, and, (2) there is no reasonable interpretation of the verb that could have a frame-external argument compatible with *-ni*. In other words, any verb occurring with *-ni* must be semantically and pragmatically compatible with its frame-internal or frame-external reading. This prediction is, in fact, borne out by the existence of some verbs that cannot occur with *-ni* for just these reasons (here * doesn't necessarily signify ungrammatical in the strict sense, but rather unacceptable):

(193) a.*'iči-ni-y
be.hot/burned-DAT-IMPF

b.*čiw:ni-ni-y
speak-DAT-IMPF

c.*lakawa:n-i-y
look-DAT-IMPF

d.*lakštukla:-ni-ɬ
get.married-DAT-PFV

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e.*lani:-ni-ɬ

learn-DAT-PFV

f.*ɬway-ni-ɬ

gnaw-DAT-PFV

g.*čani:-ni-ɬ

sweat-DAT-PFV

h.*č'aw-ni-ɬ

grow.hair/mold-DAT-PFV

i.*'ayah-ni-y

be.wild-IMPF

In some of these cases, a participant that might seem compatible with *-ni* has a semantic role that is compatible with one of the valence-increasing prefixes: *pu:-*, *ɬi:-*, or *t'a:* or is handled by a body-part prefix. In such cases, these affixes take precedence. This is the case, for example, with (194a), (b), and (c):

(194) a. t'a:-čiwi:ni-y

COM-speak-IMPF

'X speaks with Y.'

b. ɬi:-laka:wa:n

DIR-look(IMPF)

'X looks towards Y.'

c. maq-č'ahu-ta

hand-grow.hair-PF

'X has hair on his hand.'

The other verbs have a semantically and/or pragmatically odd reading with *-ni* for other reasons.

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Second, this account predicts the possibility of forms in which the argument associated with *-ni* is ambiguous between a frame-internal and a frame-external reading; again the prediction is confirmed by the data:

(195) a. k- 'i: -ni -n

1SUB-get/buy-DAT-2OBJ(PFV)

'I got/bought it from you,'(frame-internal) or

'I got/bought it for you.'(frame-external)

b. ki -st'a: -ni -l

1OBJ-sell-DAT-PFV

'X sold it to me,' (frame-internal) or

'X sold it for me.'(frame-external)

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2.3.1.1.2 Direction, ɬi:-

The prefix *ɬi:-* takes arguments with a wide variety of semantic roles. In many cases it is the translation equivalent of the English preposition *for* or Spanish *por* or *para*. With verbs of exchange, it marks the price, with human arguments it often marks the person something was done 'on behalf of,' and in perhaps its most productive use it marks 'the reason for which' the action was done or 'the cause' of the action.

(199) ɬi:-st'a:-y 'aqš-kaw

DIR-sell-IMPF CLASS-ten

'X is selling it for ten pesos.'

(200) k-ɬi:-čiwi:ni-ɬ ki-laqah laka: pu:lakčiwi:n

1SUB-DIR-speak-PFV 1POSS-brother PREP town.hall

'I spoke for my brother at the town hall.'

(201) 'eš wa: yu:ča ɬi:-t'an-t'a

then FOC PRO DIR-come-PF(2SG)

'Then that's why you've come.'

Though the last form is a possible interpretation it is potentially ambiguous since with verbs of motion, the prefix *ɬi:-* changes 'come' and 'go' to 'bring' and 'take.' Here, as with other more completely lexicalized forms, the prefix has undergone some phonological shifts (in the Tlachichilco dialect; in Huehuetla the form in (202b) is used with both readings. See Appendix):

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(202) a. ɬa:-'a-ɬ cf. b. ɬi:-'a-ɬ

DIR-go-PFV DIR-go-PFV

'x took y.' 'X went because of Y.'

b. ka-ɬi:-min-a:

IRR-DIR-come-FUT

'X will bring Y.' (or 'X will come because of Y.")

Other semantic relations borne by the argument of *ɬi:-* include the location away from which motion occurs, the location toward which motion occurs, the cause for the action, the orientation of an object vis-a-vis another, the content of (otherwise intransitive) speech and cognition verbs, the 'raised' subject of a complement clause, and the temporal notions, 'following' or 'preceding.'[1]

The semantic relations of the arguments associated with *ɬi:-*, however, are not merely random. In this section I will present a survey of the various semantic relations these

[1] In an earlier study (Watters 1985) it was argued that *ɬi:-* with a spatial sense was synchronically a distinct prefix from *ɬi:-* with other senses, though the two are etymologically related. I think the case can now be made that there is one *ɬi:-* prefix, though with multiple interpretations. There were three arguments for distinct homophonous *ɬi:-* prefixes. First, they are semantically distinct; this will be accounted for in the following discussion: the spatial use of *ɬi:-* maps onto non- spatial domains. Second, they are syntactically distinct in that the spatial use of *ɬi:-* sometimes does not increase the valence of the verb. This will be shown to occur in those instances in which a transitive verb base already expresses its locative argument morphosyntactically. The frame-internal use of *ɬi:-* then does not serve to 'activate' an otherwise 'silent' internal semantic argument; it simply overlays the direction reading on the locative argument that is already morphosyntactically present. Third, the spatial use of *ɬi:-* often occurs further from the stem than other uses of *ɬi:-*; this is accounted for by the fact that some of the more 'lexicalized' forms exhibit the rank shifting discussed above. That is, these prefixes occur in variant orders since some occur as part of (listed) lexical items, while others are truly a result of a productive rule of the grammar; the former always occur 'inside' the latter.

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arguments manifest and will offer an account that relates all such occurrences to two basic notions: *ɬi:-* as marking direction and *ɬi:-* as marking secondary theme.

As already noted above, the suffix *-ni* most often is associated with an argument that is a 'bounded path' in Jackendoff's sense, i.e. either a goal or a source. Similarly, we can refer to another type of Jackendoff's PATH here: the prefix *ɬi:-* can be said to have an argument that marks direction, i.e. something like 'away from' or 'toward,' at least in those instances in which *ɬi:-* has a clearly spatial function. Thus note the following examples that contrast the arguments of *-ni* and *ɬi:-*:

(203) kin-k'in yu:ča takyaw-ni-y kin-kuku ta'an
1POSS-aunt 3PRO run-DAT-IMPF 1POSS-uncle when
maqanaq-putun la: 'iš-t'a:pa:-ti
beat-DESID(IMPF) PREP 3POSS-get.drunk-NOM
'My aunt, she runs away from my uncle when in his drunkeness he wants to beat her.'

(204) kim-pay yu:ča ɬi:-takayaw-ɬ ta'an
1POSS-father 3PRO DIR-run-PFV where
ma:-pa'a:-ni-ka-ɬ
CAUS-burst-DAT-PASS-PFV
'My father, he ran toward/away from where there was shooting.'

(205) kin-čaqa: ɬi:-ya:ɬ ni skue:lah
1POSS-house DIR-stand ART school
'My house is standing at/toward the school.'

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With the verb *takyahu-*, 'run' (from the stative *'akyahu-*), the argument associated with the dative suffix, *-ni*, can only refer to the beginning location of the running and is regularly an animate participant. The argument associated with the prefix *ɬi:-*, however, can be either the direction toward or away from which the running occurred and is most often inanimate.[2]

Of course, there are other idiosyncracies that must be marked in the lexicon. Thus, with the stative verb *ya:ɬ*, we see that the argument associated with *ɬi:-* must be inanimate when it occurs with stage-level stative verbs. Thus the form in (205), above, is not acceptable if the argument of *ɬi:-* is animate and the form in (207) is acceptable only if the argument of *ɬi:-* is inanimate, such as, in this case, the 'reason':

(206) mi-šanati wa: ya:-ni-ɬ mim-pisaqa
*ɬi:-ya:ɬ
2POSS-woman FOC stand-DAT-PFV 2POSS-younger.sibling
*DIR-stand
'Your wife is standing next to your younger sibling.'

(207) *ki-ɬi:-wiɬ (cf. ki-wiɬ -ni-ɬ)
1OBJ-DIR-sit (1OBJ-sit-DAT-PFV)
'X is sitting near/by me.'
k-ɬi:-wiɬ ka-čin-a: ki-laqah
1SUB-DIR-sit IRR-arrive.here-FUT 1POSS-kinsman
'I'm sitting because my brother will arrive.'

[2] This verb is only found in the Tlachichilco dialect. See fn. on *'akyahu-* in 2.1.1.

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Other occurrences of *ɬi:-* with stative verbs include the following:

(208) 'awinti ho'ati ɬi:-ya:ɬ 'a-laka-tawn relihion

that man DIR-stand other-CLAS-one religion

'That man stands toward (follows) another religion.'

(209) kit'in k-ɬi:-wiɬ š-ɬi:-'aniy laka:=skue:lah

I 1SUB-DIR-sit 3POSS-DIR-here PREP=school

'I live on this side of the school.'

(210) čavay 'awinti laqči:ti š-ɬi:-'aniy ɬi:-huk'aɬ

now that clothes 3PRO-DIR-here DIR-be.above

'Those clothes are now up above over this way.'

(211) ni kuštaɬ ha:ntu čun ɬi:-ma:naɬ

ART costal NEG (just)so DIR-lie(PL)

'The costales aren't lying neatly/straight.'

Returning to non-statives, we again see the contrast between the arguments of *ɬi:-* and *-ni*. Thus, with the (transitive) verb *'aqc'in*, 'X rests head on Y' or 'X uses Y for a pillow,' the (frame-external) use of *-ni* registers the possessor of the locative (the headrest) as an argument of the verb. The prefix *ɬi:-*, on the other hand, can refer to the argument from whom the pillow was taken away[3]:

[3] There is some disagreement about this. The reading here is the reading given by the consultant who provided the sentence in the first place. However, on a separate occassion another speaker (from the same village) argued this reading is not possible. In the reading he provided, the possessor does not occur as an argument of *ɬi:-*. Rather, the role of direction provided by *ɬi:-* is overlain on the locative argument of the verb (the pillow). Thus, *ɬi:-'aqts'iɬ*, 'X rested his/her head toward Y.'

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(212) kin-c'aɬ=k'an 'aqc'in-i-ɬ 'iṡ-maka: 'iṡ-laqah

1POSS-boy=PLPOSS rest.head-DAT-PFV 3POSS-hand -kinsman

'Our son used his brother's hand for a pillow.'

(213) ɬi:-'aqc'iɬ 'iṡ-'aqc'iɬ 'is-c'aɬ, čavay ha:ntu

DIR-rest.head-PFV 3POSS-pillow 3POSS-boy, now NEG

'alin tu'uchun ka-'aqts'i-l

exist(IMPF) anything IRR-rest.head-PFV

'X used his son's pillow, now he doesn't have anything to use for a pillow.'

Looking at the use of *ɬi:-* with those verbs that involve directional motion, the following examples further confirm the spatial use of *ɬi:-* to register the direction ('away from' or 'toward') as an argument of the verb (*ɬi:-* and its argument and their counterparts in the translation are in bold print):

(214) 'iṡ-maqni:-putun ni 'a:c'o'o porke wa: ɬa:'an

PT-kill-DESID ART hawk/eagle because FOC take(IMPF)

laks-t'uniy piyu-n pero wa: ɬi:-ɬtiliniɬ

PL-little chicken-PL but FOC DIR-fly

'X wanted to kill the hawk because it takes little chickens but it flew **away from him.**'

(215) ku:tanča ki-'apana: yu:cha ɬi:-ma:-laqpusu:-ɬ

yesterday 1POSS-father.in.law 3PRO DIR-CAUS-pass.thru-PFV

'iṡ-kuṡ ɬa:'a:ška:n

3POSS-corn river

'Yesterday my father-in-law passed his corn through **to the other side/this side of the river.**

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(216) ku:tanča ki-šanati łi:-oq-łi ni ška:n laqxqa:ti

yesterday 1POSS-woman DIR-drink-PFV ART water creek

pero yu: a-lati 'iš-t'a:-šanati-n ha:ntu-ča

but ART other-some 3POSS-COM-woman-PL NEG-already

ka-ta-'oq-łi porke wa: tahu:-ł-ča

IRR-3PL-drink-PFV because FOC go.into-PFV-already

ni š'oy lak-ška:n

ART dog LOC-water

'Yesterday my wife drank the water from the creek but her oTher fellow-women didn't drink anymore because the dog was in the water.'

(217) ha:ntu pakšan ka-tama:-'ela-ł ni hikmi, wa:

NEG wait(IMPF) IRR-lie.down-PRCD-PFV ART fire, FOC

liman łi:-ma:p'u:-y ni ška:pu: t'an

immediately DIR-put.in(fire) ART shrimp when

ka-pi-ti ni la:'a:ška:n

IRR-go(2SUB)-PFV ART river

'He doesn't wait for the fire to die down first, but right away sticks the freshwater shrimp into it when you go to the river.'[4]

---

[4] A note on methodology here: To confirm which is the argument of the *łi:-* prefix and which is the argument of the base verb in such forms, a question can be asked regarding the subject of the corresponding passive forms. Thus,

(i) tisunča ma:p'u:-kan ? wa: yu: ška:pu:
what stuck.in-PASS(IMPF) FOC ART shrimp
What is stuck in? It is the shrimp.

(ii) tisunča łi:-ma:p'u:-kan ? wa: yu: hikmi
what DIR-stick.in-PASS(IMPF) FOC ART fire
What is DIR-stuck in? It is the fire.

This discovery procedure applies to all cases involving affixes that add an object to the valence of the verb.

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There are a few attested forms in which *ɬi:-* registers the presence of a morpho-syntactic argument marking direction, and yet the valence of the base verb is not increased. While preserving a specific aspect of the semantics of *ɬi:-*, there is no added argument. These are examples of the frame-internal use of *ɬi:-*, applying to a core argument of a transitive base verb; more specifically, applying to an argument that is realized morphosyntactically even without the *ɬi:-*. These are the instances in which *ɬi:-* overlays the semantic role of direction on an argument that is available for a locative reading. Thus in the following two forms the base verb has two core arguments as does the form with *ɬi:-*:

(218) cak'a-y ɬi:-cak'a-y
bite-IMPF DIR-bite-IMPF
'X bites Y.' 'X bites toward/snaps at Y'

(219) laqc'in ɬi:-laqc'in
see/look.at(IMPF) DIR-see/look.at(IMPF)
'X sees/looks at Y.' 'X looks (warily?) toward Y.'

The sense in which the frame-external argument of *ɬi:-* marks direction is not merely spatial, however. As has been noted by linguists in various traditions, forms that designate spatial relations are often used to refer to relations in other domains (cf. Lakoff and Johnson 1980, Lakoff 1987a and Jackendoff 1983 for very different ways of accounting for such facts). Thus the argument of *ɬi:-* not

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only marks the notion of direction in the spatial domain but also in the temporal and logical domains. In such cases the argument of *ɟi:-* is generally a state or event (though in the temporal domain it could be a period of time): in the temporal domain it's one that occurs before or after the clause containing *ɟi:-*; in the logical domain it's the reason or cause. The following diagram attempts to capture the similarity in mapping in these domains (the only relation in the pattern below that is unattested is enclosed in []; *ɟi:-* signifying 'after' some event or state):

(220) **(frame-external) argument associated with ɟi:-**

```
                                    toward X-OBJECT (spatial)
     ɟi:+verb ------------> before X-EVENT/STATE (temporal)
                      in order that X-EVENT/STATE (logical)

  away from X-OBJECT (spatial)
  [after X-EVENT/STATE (temporal)]----------------->ɟi:+verb
  because of X-EVENT/STATE (logical)
```

The examples discussed thus far have involved the use of *ɟi:-* in the spatial domain with arguments denoting objects. The following examples display the use of *ɟi:-* in the temporal domain:

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(221) kin-ci'i yu:ča ɬi:-p'aɬnan t'an ha:ntu=ka:
1POSS-girl 3PRO DIR-sweep(IMPF) when NEG-yet
skunun ni huɬčan, 'eṡ ha:ntu=ka: takyahu-y ni p'oqṡni
shine(sun)(IMPF) ART sun then/so NEG=yet run-IMPF ART dust
'My daughter sweeps before the sun shines, when the dust isn't running around.'

(222) ki-ṡanati maka:-ɬ pa:n para la:kat'an pero wa: ni:man
1POSS-woman make-PFV bread for fiesta but FOC immediately
ɬi:-mi'o:-ɬ, ha:ntu ka-lakacha:-ɬ kat'an.
DIR-run.out-PFV NEG IRR-last/reach-PFV fiesta
'My wife made bread for the fiesta but it ran out right away, before it, it didn't last for the fiesta.

The following examples display the use of *ɬi:-* in the logical domain:

(223) ki-'apana: yu:ča ɬi:-maqta-ɬ 'i-ṡanihk'iw ta'an
1POSS-father.in.law 3PRO DIR-fell-PFV 3POSS-cedar when
'iṡ-k'ata-ta ni maɬkuyu:, 'eṡ ha:ntu 'u-y capuɬ
PT-mature-PF ART moon then NEG eat-IMPF worm
'My father-in-law cut down his cedar tree when the moon was full so that the termites won't eat it.'

(224) kit'in wa: 'oṡi k-ma:pala-y ni 'oqṡtama:-ti, wa: yu:ča
I FOC good 1SUB-pay-IMPF ART employ-NOM FOC 3PRO
ɬi:-taqṡto-'a ki-oqṡtama:-ti la:=kin-čaqa:
DIR-gather-IMPF 1POSS-employ-NOM PREP=1POSS-house
'I pay the workers well, that's why my workers gather at my house.'

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To this point I have focused on the use of *-ɬi:-* to register as an argument of the verb a frame-external or frame-internal participant with a semantic role somehow related to the spatial notion, 'direction'. However, there are numerous examples in which the argument of *-ɬi:-* does not neatly fit the 'direction' account given above. Rather it is a 'secondary theme,' in a sense I will discuss below. Thus, the general rule for *-ɬi:-* must be disjunctive, involving both frame-external and frame-internal aspects:[5]

(225) The argument associated with *-ɬi:-* marks 'direction' (in the spatial, temporal, or logical domains), unless it is frame-internal, in which case it may instead mark 'secondary theme.'

I am using the term 'secondary theme' here in a fairly straightforward sense:

(226) A secondary theme is a theme that isn't a direct argument of the verb.

With intransitive cognition/communication verbs the secondary theme is the topic of the content. I'll give some examples in a moment but first note that verbs of communication in Tepehua pattern grammatically in a manner

[5] Parenthetically, I should point out that there might be some sort of motivation that can relate the two uses of *-ɬi:-*. Both direction and theme refer to an object on a path. Direction is 'static' in that it specifies the orientation of the object along the path vis-a-vis a locative (i.e., toward a goal or away from a source). A theme, on the other hand, is 'dynamic,' specifying the motion of the object along the path (toward a goal or away from a source). However, I hesitate to consider this a property of the grammar of Tepehua (though it may have something to do with historical developments and language acquisition); hence, the disjunctive account given here.

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that is parallel to verbs of giving, most notably by marking the goal with the dative suffix, *-ni*. The covert categories which treat the communicator as a 'source' and the listener as 'goal' are given explicit expression in Tepehua (just as they are in languages such as English or Spanish):

(227) ki-štaq-ni-ɬ ha:tapa:stak'ati

iOBJ-give-DAT-PFV thought

'He gave me counsel/advice/ideas.'

(228) ha:ntu laqa'i:-putun min-čiwi:nti

NEG receive-DESID(IMPF) 2POSS-word

'X doesn't want to receive your message/ hear from you.'

Thus, the content of verbs of communication patterns as the theme. Similar arguments could be made for the content of verbs of cognition. In other words, the content of this class of verbs is the theme; what the speaking/thinking is about -- the topic -- can be made an argument of the verb by means of the prefix, *ɬi:-*.

Note, then, the following examples:

(229) kim-pay yu:ča ɬi:-ɬaka:pu:'an ni Dios ni yu:ča

1POSS-father 3PRO DIR-believe(IMPF) ART God ART 3PRO

ka-ma:-laq-taštu-ya: t'an ka-ni:-ya:

IRR-CAUS-body-go.out-FUT when IRR-die-FUT

'My father believes that God will save him when he dies.'

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(230) pa:šku ɬi:-čiwi:nin-ka-ɬ laka:tahtan

Holy.Week DIR-speak-PASS-PFV church

'Holy Week was spoken about at church.'

(231) ɬi:-miɬpa:-ɬ 'is-ci'i

DIR-sing-PFV 3POSS-girl

'X sang about his/her girl.'

(232) ɬi:-tamo'o-y co'o:n

DIR-study/pray Otomi'

'X is studying about Otomi''

(233) wa: ɬi:-'aqlaqahu-n wa: p'in-t'a:-t'ik lakɬi:tamaw

FOC DIR-dream-2OBJ FOC go(2SUB)-PF-2PLSUB market

'I dreamed about you that you went to market.'

Note that in (229) and (233), *ɬi:-* occurs on transitive verbs. The base verb takes as its object the content of the belief or of the dream. In these cases, ɬi:- causes the topic of that content (*Dios* in (229) and the addressee in (233)) to become a direct argument of the verb. The other examples involve *ɬi:-* on intransitive verbs, here made syntactically transitive by the occurrence of the prefix, registering the theme/content as an argument of the verb.

Perhaps more straightforward are the occurrences of *ɬi:-* on verbs in which the scene most typically involves a secondary theme. An example that has appeared in many sentences thus far are the forms for 'come' and 'go' with *ɬi:-* becoming 'bring' and 'take.' (As noted at the beginning of this section, this use of *ɬi:-* is more lexicalized form, as can be seen by the fairly idiosyncratic phonological

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change in the prefix: *ɬa:-'an*, 'take.' Nevertheless, in any formal account it would have to be related to the general use of *ɬi:-* by lexical redundancy rules.) Here the primary theme (which also has the role of agent or effector) patterns as the actor-subject, while the secondary theme (the thing taken or brought) is the argument of *ɬi:-*

Another common 'secondary theme' argument of *ɬi:-* is 'cost' or the item given in exchange for something:

(234) ɬi:-'i:-ɬ 'aqṡ-kaw

DIR-get-PFV flat-ten

'X got it for ten pesos.'

(235) ta:čunč ɬi:-st'a:-y

how.much DIR-sell-IMPF

'How much is X selling Y for?'

This use of *ɬi:-* to register the cost even extends to verbs that don't directly involve exchange. Thus, *ta:knu:-*, 'go under the surface,' may be used to refer to someone's funeral. Used in this sense, *ɬi:-* can occur, with the cost (of the funeral) as its argument:

(236) kin-kuku wa: ɬi:-ta:knu:-ɬ 'iṡ-kafe

1POSS-uncle FOC DIR-go.under-PFV 3POSS-coffee

'My uncle was buried with the costs of the funeral covered by his coffee.'

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(237) wa:mun ɬi:-maka:-ɬ ni tumin 'iš-taq-ni-kan-ta, ha:ntu
only DIR-make-PFV ART money PT-give-DAT-PASS-PF NEG
ka-ɬaha:-ni-ɬ tu'učun
IRR-gain/win-DAT-PFV anything
'X made Y with only the money he had been given, he didn't gain (profit) anything.'

We saw with *-ni*, postulating both frame-internal and frame- external uses of a valence-affecting affix correctly predicted that some forms could be ambiguous between the two. This is also true with *ɬi:-*. Thus the two possible readings in (238) correspond to the two mappings of logical structure below (unlike *štaq*, 'give,' *st'a:*, 'sell' explicitly encodes in its LS the secondary transaction involving the item of exchange):

(238) wa: yu:ča ɬi:-st'a:-ɬ
FOC 3PRO DIR-sell-PFV
'That's how much X sold Y for.' (frame-internal)
or 'That's why X sold Y.' (frame-external)

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(239) Subject other core arguments

Actor Undergoer ɬi:-

[[[do'(w)]CAUSE[BECOME NOT have'(w,x)]&[BECOME have'(y,x)]
& [BECOME NOT have'(y,z)]&[BECOME have'(w,z)]]

ɬi:-sta:-ɬ

DIR-sell-PFV

'X sold Y for Z(price)'

(240) Subject other core arguments

Actor Undergoer ɬi:-

[[[do'(w)]CAUSE[BECOME NOT have'(w,x)]&[BECOME have'(y,x)] &
[BECOME NOT have'(y,z)]&[BECOME have'(w,z)]] <-->
[...(PURPOSE)...]

ɬi:-st'a:

DIR-sell

'X sold Y for Z(purpose)'

In conclusion, *ɬi:-* functions to register as a morpho-syntactic argument of the verb either a frame-internal or a frame-external participant. In both cases the semantic role of the associated argument is either theme or the direction

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('toward'/'away from' in the spatial, temporal or logical domain).

The variable ordering of *ɬi:-* with the other prefixes parallels the frame-internal and frame-external functions to a large extent. Thus, when *ɬi:-* occurs in an 'outer' position (farther from the stem) it regularly registers a frame-external participant as an argument:

(241) a. wa: yu:ča pu:-ɬi:-mi-ɬ

FOC 3PRO VIA-DIR-come-PFV

'That's what X brought it in/on.' (argument of *ɬi:-* = secondary theme)

b. wa: yu:ča ɬi:-pu:-mi-ɬ

FOC 3PRO DIR-VIA-come-PFV

'That's why X came that way.'

However, it might be more accurate to simply claim that the more lexicalized forms with *ɬi:-* regularly have *ɬi:-* occurring close to the stem, and the more productive forms regularly have *ɬi:-* occurring farther from the stem.

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2.3.1.1.1 VIA, pu:-

To discuss the use of the prefix pu:- in Tepehua it will be helpful to have some acquaintance with its use in Totonac. In Northern Totonac it apparently consistently marks 'location' or, more specifically, the entity in or on which the action of the verb occurs (all Northern Totonac data are from Reid et al 1968):

(242) to:'la ---> pu:-to:'la
'x sits' LOC-sit
'x sits on it.'

(243) ca:'la ---> ta:'-pu:ca:'la-ɬ- i'š-kawayuh
'x flees.' COM-LOC-flee-PFV 3POSS-horse
'x fled with y on the horse.'

This parallels its use in Totonac with some nonderived noun stems to indicate location:

(244) stapu ---> pu:stapu[1]
beans beanfield

(245) kafe ---> pu:kafe
coffee coffee orchard

In Tepehua, however, the situation is somewhat different (and, as will be seen in 3.2, these differences have significant implications for the interpretation of the deverbal nominal forms). The locative element is present in Tepehua and is, in fact, the key meaning of *pu:-*, as I'll argue below. However, the semantic function assigned by *pu:-*

[1] In the northern dialect of Totonac these forms are *stapun* and *pu:stapun*, the plural suffix apparently lexicalized with the stem.

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to its argument must, as a first approximation, be generalized to 'means' or 'path.' Thus in the following examples, the argument marks locative, instrument, path taken, and cognitive means:

(246) pu:-tawla-ɬ

LOC-sit-PFV

'x sat on y.'

(247) pu:-ma:laqɬti'a:-ɬ

INST-open-PFV

'x opened y with z.'

(248) pu:-mi-ɬ Veracruz

PATH-come-PFV

'x came via Veracruz.'

(249) ta:s pu:-lani:-ɬ -ča

how MEANS-learn-PFV-ALRDY

'How did he learn it/figure it out?'

Thus the argument marked by *pu:-* in Tepehua, as in Totonac, may mark location as well as other functions (In Totonac, in fact, it may mark instrument in selected instances but the most general use seems to be to register location as an argument of the verb).

Complicating the situation is the body-part use of *pu:-* as designating the area of the crotch, often resulting in taboo forms and some ambiguity. This is the only one of the valence-increasing affixes that has a homophonous form referring to a body-part.[2]

[2] Whether this is truly a case of homophony or whether it's actually an instance of polysemy (within a framework utilizing prototypes, e.g.

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Syntactically, the body-part use of *pu:-* differs from the valence-increasing *pu:-* in that it does not affect the syntactic transitivity of the verb (this is generally true of body-part prefixes, but see discussion in 2.3.1.3):

(250) ta-pu:-'eš-łi

INCH-PU-tear-PFV

'it tore in the crotch/seat'

(251) po:-'aqc'i-l

PU-rest.head/use.for.pillow-PFV

'X puts a pillow between his/her legs.'

(252) ku:tanča k-'i:-ni-ł 'iš-qa'un kin-c'ał wa:

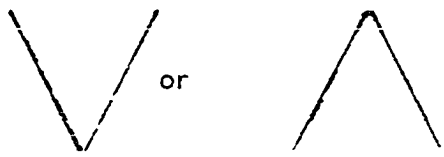
yeserday 1SUB-get-DAT-PFV 3POSS-pants 1POSS-boy FOC

po:-'aqs-łi, ha:ntu łi:hun

PU-get.tight-PFV NEG fit(IMPF)

'Yesterday I got my son some pants (but) they're tight, they don't fit.'

Lakoff 1987). I'm not prepared to argue. In fact, one might want to explain (here in the sense of motivate rather than predict) the similarity between the *pu:-* which marks 'means' or 'path' and the body-part prefix for crotch. Thus, potentially associated with both uses is an image of a bounded passageway through an area or object, something like the following:

(i) 

Similarly, this would help account for the locative use of *pu:-* in Totonac-Tepehua in general: like the crotch, it marks a bounded space. As with the connection between 'direction' and 'secondary theme' in the discussion of *łi:-*, such schematic connections might enter into an eventual historical account or facilitate language acquisition. However, for a synchronic account of the grammar it is easiest to consider these as separate morphemes: a body-part prefix and a valence-increasing prefix.

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These verbs with *pu:-* in (250) - (252) can only be given the body-part reading. Other verbs are ambiguous and still others will only allow the valence-increasing reading for *pu:-*.[3]

For the remainder of this section I will discuss the valence-increasing *pu:-*. First, it should be noted that (unlike Totonac) some intransitive verbs take *pa:-* or *pu:-*, with no discernible meaning difference:

(253) k-pu:-lakawa:na-ɬ = k-pa:-lakawa:na-ɬ

1SUB-PU-look-PFV

'I looked through/by means of it.'

(254) pu:-st'a:na-ɬ ki-mu:raɬ = pa:-st'a:-na-ɬ ki-mu:raɬ

PU-sell-AP-PFV 1POSS-bag

'x sold using my bag.'

(255) pu:-c'oq-nu-ɬ mi-ma:kina = pa:-c'oq-nu-ɬ mi-maki:na

PU-write-AP-PFV 2POSS-machine

'x wrote with your typewriter.'

Though it appears the above forms are semantically and functionally equivalent, there is a syntactic constraint on the use of the *pa:-* form: the verb base must be intransitive. Note that though the base verb in both (254)

[3] The interpretation of *pu:-* as referring to the area of the crotch is especially prevalent with certain verbs that occur frequently with body-part prefixes (see 2.3.1.3). Forms referring to the crotch, if they refer to sexual organs or functions, are (like other sexually explicit words) called *'aštoqnu: ćiwi:inti*, 'stuff words.' As such they are not considered proper for standard conversation though they are used to express disgust (similar to Spanish grocerias) and by some men in verbally teasing unmarried girls. This semi-taboo property has, for some speakers, resulted in obliterating many potential homophonous verb forms that would have the valence-increasing reading of *pu:-*; they are understood instead as having the body-part reading.

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and (255) is transitive, in each case the antipassive suffix is present, giving an intransitive verb stem. Now compare (253)-(255) above with (256)-(258) below:

(256) pu:-laqc'i-ɬ ho'ati ni teleskopio / *pa:-laqc'i-ɬ
PU-see-PFV man the telescope
'x saw a man with the telescope.'

(257) pu:-st'a:-ɬ ki-mu:raɬ / *pa:-st'a:-ɬ ki-mu:raɬ
PU-sell-PFV 1POSS-bag
'x sold y using my bag.'

(258) pu:-c'oq-ɬi mi-ma:kina / *pa:-c'oq-ɬi mi-ma:kina
PU-write-PFV 2POSS-machine
'x wrote it with your typewriter.'

Thus only the *pu:-* form may occur with a transitive base; the *pa:-* form may occur with an inherently intransitive verb or one that has been detransitivized by means of the antipassive suffix. Note that this implies affixation of the antipassive suffix is ordered before the *pu:-* ~ *pa:-* prefix, (agreeing with the conclusions presented below in 2.3.1.2.1).

As with the accounts of *-ni* and *-ɬi:-* presented above, I will make a distinction between the frame-internal and frame-external participants that are registered as arguments of the verb through affixation of *pu:-*. As we have seen thus far, bounded path is the role of the argument associated with the frame-external (and some frame-internal) uses of *-ni*; and direction is the role of the argument associated with the frame-external use of *-ɬi:-*. The third PATH notion

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is the basic concern of this section: 'route' -- or VIA -- is the role of the argument associated with the frame-externl use of *pu:-*. This is expressed informally in the following statement (following Jolly's (1987) account of English prepositions):

(259) The prefix *pu:-* (~ *pa:-*) on stative verbs registers as a syntactic argument of the verb the second argument of the predicates **be.in'**(x,y) or **be.on'**(x,). On non-stative verbs it registers as a syntactic argument of the verb an argument with the semantic role of 'route' (=VIA).

As with the notions of direction and bounded path, route can be expressed in non-spatial as well as spatial domains. Thus it can refer not only literally to the route by which the theme came or went but also to the procedure by which something was done, or even more generally, the manner in which something came to be. Examples such as the following are typical:

(260) ta:s pu:-lani:-ɬ -ča
how VIA-learn-PFV-already
'How did X learn Y?'

(261) wa: čunča pu:-cuku-ɬ
FOC so VIA-begin-PFV
'That's just the way X was born.'

This is the most productive use of *pu:-*: to register as an argument of the verb some item with this notion of route (generalized to both spatial and non-spatial domains). It

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can occur on virtually any verb with this reading (the exceptions mostly being those verbs that most commonly take body-part prefixes for which *pu:-* has its body-part reading (see discussion above and in fn.).

However, with some verbs the semantic role of the argument associated with *pu:-* appears to be more specialized. Thus it is very common for the argument associated with *pu:-* to refer specifically to the instrument rather than to the means by which something came about. Note the following typical examples:

(262) pu:-maka:-ɬ 'iš-pu:-laqcikni-ti

VIA-make-PFV 3POSS-VIA-cut-NOM

'X made Y with his/her scissors.'

(263) ta- la:-pu:-šaqala:-ɬ tele:fono

3SUB,PL-REC-VIA-speak.to-PFV telephone

'They spoke to each other by telephone.'

Intuitively, there is something very similar about means and instrument such that it doesn't seem all that surprising to find the same affix encoding both; the problem is how to express this similarity in an explicit way. While the following account doesn't pretend to be formally rigorous (nor original), I hope it will provide some insight into the issue.

In the domain of cause and effect, 'route' most naturally refers to at least an intermediate cause. Thus note (262) and (263) above where the argument associated with *pu:-* is some type of cause. In such instances, then,

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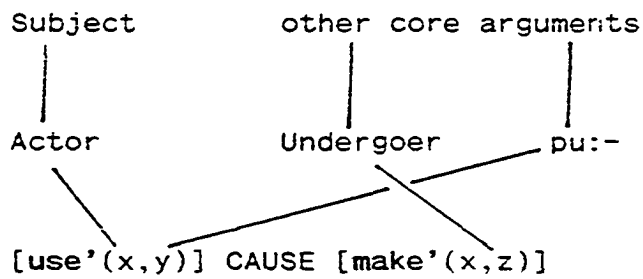
pu:- encodes a causing activity as an argument of the verb. However, there are numerous instances in which the actor and the general activity of the cause is largely known or redundant with the main predicate. In such cases the prominent notion is not the causing activity itself but a participant in the causing activity, most often the theme. It is this participant that may occur as the argument of *pu:-*, resulting in the fact that the argument of *pu:-* is often the instrument. The mapping of LS onto the morphosyntax in a case such as (262) would be something like the following:

(264)



pu:-maka:-ɬ 'iš-pu:-laqcikni-ti

VIA-make-PFV 3POSS-VIA-cut-NOM

'X made Y with his/her scissors.'

Such an analysis accounts for still other instances that don't directly fall under the notion of route or instrument. Thus note the following sentence and its associated mapping of LS:

(265) kim-pu:-lani:-ɬ 'aqcikni-ti

1OBJ-PU-learn-PFV cut.hair-NOM

'X learned hair-cutting by means of me (i.e., by practicing on me).'

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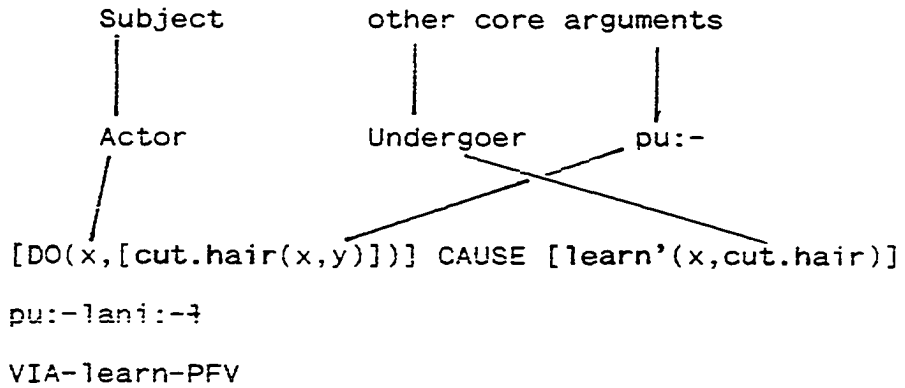

Here the argument associated with *pu:-* is not the instrument (in even a generous sense of the term) but the patient of the event which lead to (or caused) X's learning how to cut hair.

There is a significant difference in the literature in the treatment of the semantics of causation, specifically, whether CAUSE is a relation between an individual and an event (as in Jackendoff 1976,1983) or between two events (as in Dowty 1979 and Talmy 1976) Note that this account rather crucially assumes the latter: that causation is a relation between two events (or states).[4] This parallels the more general use of *pu:-* to refer to route in non-spatial domains, including encoding the event(s) leading up to the state or event in question. The only further stipulation beyond that in (259) is that if the route is an event, the

[4] In 2.3.1.1.5 further evidence will be given to consider causation a relation between two predicates rather than between an individual and an event.

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argument associated with *pu:-* may refer to the theme or undergoer[5] of that event.

[5] As will be seen in the following section, the Actor of the preceding event can only be encoded by the causative prefix *ma:-*.

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2.3.1.1.4 Comitative, t'a:-

The prefix *t'a:-* marks the function of an animate argument as comitative:

(266) Jose t'a:-st'a:-na-l- Kwan.

Jose COM-sell-AP-PFV Juan

'Jose sold with Juan.'

(267) wa: k- nahun kin- t'a:-p'in-e -'i

FOC 1SUB-say(IMPF) 1OBJ-COM go.2-FUT-2sg.

'I want you to accompany me.'

(268) Pe:dro t'a:-laqc'in -a: -n ni Kwan

Pedro com-see/watch-IMPF-2obj art Juan

'Peter with John is watching you.' or

'Peter with you is watching John.'

Note that in the examples above, *t'a:-* marks a 'co-agent,' not a 'co-theme'. Thus, (268) can't mean 'Peter sees you with John.'[1] However, as will be pointed out below, the argument that is encoded as subject is either (1) more agentive, (2) foregrounded, or both. As such, it assumes actor status. The argument associated with the prefix, as with all arguments associated with syntactic-encoding valence-increasing prefixes, is not undergoer, but simply licensed as a direct (syntactic) argument of the verb by the presence of the prefix. Thus, the presence of the

[1] I have been given a few examples that apparently involve a 'co-patient.' Thus, I've been told that *kin-t'a:-maqni:-l* (1OBJ-COM-kill-PFV) has the reading 'X killed me along with Y.' But this certainly seems to be unusual; I have never encountered it in texts, while the 'co-agent' use is very common.

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antipassive suffix, *-nVn*, on the verb in (269) removes the theme argument, not the comitative:

(269) t'a:-st'a:-nan

COM-sell-AP(IMPF)

'X is selling with Y.'

*'X is selling Y with someone.'

Note also that the suffix *-n*, '2obj,' may be either the direct object or the comitative argument. That is, in accordance with the hierarchy in (88) of section 2.1.3, a second person participant is encoded on the verb regardless of its specific non-subject status.

In the comitative construction, it is (as with the other valence-increasing affixes) the argument of the verb that maps onto the actor macrorole and so assumes subject status in non-passive forms. It may seem that we would have a potential conflict here, since by its very nature comitative suggests the two arguments are sharing the same semantic role. However, it is regularly the case that the argument that patterns as actor (and subject) is the argument that takes the initiative in the accompaniment. Thus the following two forms are not (even) truth-conditionally synonomous:

(270) k-t'a:-tama:-ɬ ke:-s'at'a

1SUB-COM-lie.down-PFV 1POSS-child

'I lay down with my child.'

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(271) kin-t'a:-tama:-ɬ ke:-s'at'a

1OBJ-COM-lie.down-PFV 1POSS-child

'My child lay down with me.'

Thus, in (270), the speaker is the one who is the initiator and hence the actor. In (271), on the other hand, the child is the actor and the argument referring to the speaker is encoded as a non-subject argument.

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2.3.1.1.5 Causative, ma:-

Tepehua has periphrastic causative constructions formed by juncture of a clause (technically, in RRG terms, a core) containing the predicate *maka:-*, 'do, make,' with another clause (core) containing virtually any other non-stative predicate.[1]

(272) Ni Che maka:-y ka- lakamakaw-ɬ 'aqčoq ni Kwan.
ART Jose make-IMPF IRR-drop -PFV pot ART Juan
'Jose makes Juan drop the pitcher.'

(273) Che maka:-y ka-pu:te'e-ni-ɬ libro ni Kwan.
Jose make-IMPF IRR-read -PFV ART book ART Juan
'Jose makes Juan read the book.'

(274) Ni Kwan maka:-kan ka- pu:te'e-ɬ ni libro.
ART Juan make-PASS IRR-read -PFV ART book
'Juan is made/forced to read the book.'

There are also two types of morphological causatives found: frozen forms (usually beginning with *maq-* or *maqa-*) and productive causatives. The productive process of causative formation for all object-level statives, activity and achievement verbs can be formulated in the following way[2]:

---

[1] In these examples the word order may vary, see chapter 4. I'll return to these constructions briefly at the end of this section to compare their interpretation with the morphological causative. A fuller account of the syntactic facts will be given in chapter 5.

[2] For vowel-final stems a general constraint prohibiting a sequence of three V's on the CV tier would then result in the proper forms.

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```
(275)  ¦(C V C ) C V C
       ¦
       ¦_  1     2 3 4 ==>   [ma:[1 2 3 4] 3 ]
    Vb                     Vb            [+long]
                          [caus]

     or, alternatively:
      _        _      _       _
     ¦ C V V-  ¦      ¦-V V   ¦
     ¦ ¦ ¦ /   ¦      ¦       ¦
     ¦ ¦ ¦/    ¦      ¦       ¦
     ¦_m a-    ¦_     _¦      _¦

    Vb        Vb
   [caus]
```

(276) laqpus-a ma:-laqpusu:-y

pass.through-IMPF CAUS-pass.through-IMPF

'Y passes through.' 'X causes Y to pass through.'

(277) łtata-y ma:-łtata:-y

sleep-IMPF CAUS-sleep-IMPF

'Y sleeps.' 'X puts Y to sleep.'

(278) ṡiṡ-a ma:-ṡiṡi:-y

dry-IMPF CAUS-dry-IMPF

'Y dries' 'X dries Y'

(279) 'aqċa'ahu-y ma:qċa'awa:-y

<--['aqca'aw]

'Y is baptized' 'X baptizes Y'

(280) lakṡtukla-y ma:lakṡtukla:-y

'Y gets married' 'X marries Y (to Z)'

(281) lukuhla-y ma:lukuhla:-y

'Y gets angry' 'X angers Y'

(282) pu:pu-y ma:pu:pu:-y

'Y boils' 'X boils Y'

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(283) soqo-y ma:soqo:-y

'Y hurries' 'X makes Y hurry'

(284) 'on ma:'onu:-y

'Y gets fat' 'X fattens Y'

There are two types of cases in which causative and non-causative pairs do not display the kind of alternation implied by (275). One, which has already been presented (2.1.1.1) is very regular and follows a simple generalization: causatives based on stage-level stative stems also require the prefixing of *ma:-* but have no terminal modification. The other is irregular is consists of a set of verbs that must simply be listed as exceptions to (275). These include the few causatives that undergo the final vowel-lengthening but don't take *ma:-*. Such as the following:

(285) a.paš-a paša:-y

bathe-IMPF bathe(CAUS)-IMPF

'Y bathes' 'X bathes Y'

b.'ahu-ɬ (<'aw) 'awa:-ɬ

get.wet-PFV get.wet(CAUS)-PFV

'X got wet' 'X got Y wet'

Other irregular causatives occur, of course. Thus, there a numerous forms that manifest one of the unproductive causative prefixes, *maq-* or *maqa-*, or some other variation:

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(286) ni:- 'die' maqni:- 'kill'

ya:ɬ 'stand' maqayahu- 'stand Y up'

ċa:- 'cook' maqċa:- 'cook Y'

'u- 'eat (trans)' -wa:wa:- 'feed (X to) Y'[3]

wahin 'eat (intr)'

As already mentioned, (275) is a general rule for causative formation on active intransitive verbs. However, there are a number of forms which present additional complications. I'll return to those after a discussion of causatives built on transitive verb stems.

In Tepehua, all transitive verb stems require the dative suffix, *-ni*, when they serve as the base for a derived causative stem. Whereas in Totonac this ending only occurs (according to the rule mentioned in Reid et al 1974) on roots ending in a long vowel, Tepehua transitive verb roots require it regardless of their phonological shape. Note the following forms:

(287) a. 'ah-ya ma:?ajni:-y

'X digs Y' 'W makes X dig Y'

b. ś'oq-ya ma:ś'oqni:-y

'X unties Y' 'W makes X untie Y'

c. ċa'a:-y ma:ċa'a:ni:-y

'X washes Y' 'W makes X wash Y'

d. škahi-y ma:škayni:-y

'X hates Y' 'W makes X hate Y'

[3] In the Huehuetla dialect the more transparent form, *ma:wa:-* occurs.

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e. maqayahu-y ma:maqayawni:-y

'X stands Y up' 'W makes X stand Y up'

f. ɬi:stak-'a ma:ɬi:stakni:-y

'X takes care of Y' 'W makes X take care of Y'

In checking a list of 190 transitive verb stems and their derived causative forms only two did not require the dative suffix, *-ni*; and even for these it occurs in one of two alternate forms for the causative:[4]

(288) a.kiɬtastuk-'a --> ma:kiɬtastuku:-y~ma:kiltastukni:-y

mouth-come.together-IMPF

'X kisses Y' 'W makes X kiss Y'

b. qasmat-'a --> ma:qasmata:-y ~ maqasmakni:-y

'X hears Y' 'W makes X hear Y'

The list included two stative verb stems with body part prefixes that occur metaphorically as transitive verbs. As stage-level stative verbs, the causative is formed in the standard fashion discussed in 2.1.1; i.e., there is no *-ni* suffix nor any lenghened final vowel. As transitive verbs, however, they require the *-ni:* ending. The (a) examples below display the simple achievement verb and its causative counterpart. The (b) examples show the same alternation but with the dative suffix (here with its 'possessor ascension' function rather than having to do with the causative). The

[4] There is a likely account for the odd fact that of the 190 verbs checked these should have been exceptions. The verb stem in (288a) is related to an intransitve verb stem that always takes a plural subject *taxtoq-*, 'to come together.' The causative form in (288b) without the *-ni* suffix often occurs as a simple transitive verb meaning 'X disciplines Y.'

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(c) examples show the metaphorical uses of the same forms as transitive verbs.

(289)	a. kiɬtawk'a-y	kiɬmu:k'a-y
	'Y gets on a mouth'	'X puts Y on a mouth'
	(cf. 5a, above)	
	b. kiɬtawk'a-ni-y	kiɬmu:k'a-ni-y
	'X gets on Y's mouth'	'W hangs X on Y's mouth'
	c. kiɬtawk'a-y	ma:kiɬtawk'ani:-y
	'X insults Y'	'W makes X insult Y'
(290)	a. 'aqtawk'a-y	'aqmu:k'a-y
	'Y is on a head'	'X puts Y on a head'
	b. 'aqtawk'a-ni-y	'aqmu:k'a-ni-y
	'X is on Y's head'	'W puts X on Y's head'
	c. 'aqtawk'a-y	ma:'aqtawkani:-y
	'X notifies Y'	'W makes X notify Y'

One further item needs to be dealt with in this regard, however. Since *-ni* is lengthened as in the rule in (275), it has to be present before the vowel-lengthening occurs. As the rule is stated in (275), this might seem to suggest that it must be present before causativization occurs. Yet the account given in 2.3.1.1.1 implies the verb is first causativized, then *-ni* occurs to register the causee as a core argument of the verb. This is a potential contradiction, however, only if the formation of the LS occurs along with the morphology. An alternative approach that is fully compatible with the account thus far is that

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the LS is prior (in some sense) to the morphology, giving us a picture like the following:[5]

(291) a. the causative is explicit in the LS,

b. *-ni* occurs, registering the causee as a core argument

c. the causative prefix occurs, registering the fact that actor = causing agent

Once the presence (and phonological shape) of *-ni* is accounted for, causativization of transitive verbs stems is a straight-forward matter.

When we turn to the causatives of intransitives, however there are several complicating factors.

We can divide into two groups the intransitive verb stems that provide the major exceptions to the purely

---

[5] With an uncomfortable amount of phonological stipulation, we could account for the facts even if the morpological rules and the expansion of the LS were to occur in tandem. In such an account, the causative rule in (275) would be prior to the dative suffix, *-ni*, yielding a structure like the following:

```
(i)   C V V ....... V V
      ¦ ¦
      ¦ ¦
      ¦ ¦
      m a: [   ]
```

While the final V's on the CV tier remain unlinked, the dative suffix is applied. At this level of the phonology, then, the rule would have to stipulate that unlinked V's can only occur at the edge a domain, resulting in a shift in the CV strucure. Finally, the unlinked V's are linked, yielding the correct form:

```
(ii)  C V V ....... V V C V    C V V .......  C V V
      ¦ ¦                  ¦ ¦ -->¦ ¦                ¦ ¦
      ¦ ¦                  ¦ ¦    ¦ ¦                ¦ ¦
      m a:  [        ]     n i    m a:  [    ]   n i
```

Of course, stipulating such a shift in the CV tier would be no more than a trick (and a poor one at that) to get around the constraint against crossing lines in phonological representations.

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syntactic solution offered above: those that end in *n* and those that end in other consonants.

Intransitive verb stems ending in *n* provide a set of exceptions to rule 6 as can be seen in (12a-d):

(292) a. ɬi:hun ma:lihuni:-y
'X fits' 'X makes it fit'

b. tunkuhun ma:tunku:ni:-y
'X dawns' 'X makes it dawn'

c. 'ac̀an ma:'ac̀ani:-y
'X's happy' 'X makes Y happy'

d. p'at'an ma:p'at'ani:-y
'X vomits' 'X makes Y vomit'

Since Tepehua words allow no geminate consonants it isn't clear in the above forms whether the stem has simply an ending *-i:* (e.g., *ma:+'ac̀an+i:-y*) or the full *-ni:* suffix (e.g., *ma:+'ac̀an+ni:-y*), though the fact that this would be the only known use of a suffix *-i:* makes it clear that the latter is at least the historical source. What is significant is that in these forms the distinction has been (morphophonemically) neutralized between causative formation on intransitive and transitive stems.

A subset of *n*-final intransitive verb stems demonstrate an interesting process of truncation in causative formation. As presented below (2.3.1.2.1), Tepehua has an antipassive suffix, *nVn*:

(293) a. st'a:-y st'a:nan
'X sells Y' 'X sells'

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b. pu:te'e-y pu:te'enin

'X reads Y' 'X reads'

c. c'ot-'a c'oqnun

'X writes Y' 'X writes'

What concerns us here, however, is the fact that a number of Tepehua verb stems require this suffix in their basic form; i.e., there is no corresponding transitive verb stem in the language without the suffix:

(294) qama:nan 'X plays'

paɬnan 'X sweeps'

staknan 'X rests'

saqnan 'X gets firewood'

ɬtilinin 'X flies'

ta:nk'iwinin 'X climbs a tree'

ɬt'uhnun 'X jumps down'

That these verb stems do in fact have the *-nVn* morpheme is suggested by diachronic evidence based on internal and comparative data:

(295) a. TT: ma:qama:-y 'X pleases Y'

TT: qama:nan 'X plays'

b. Tot: pa'ɬ -a 'X cleans Y'

TT: paɬnan 'X sweeps'

c. Tot: stak-'a 'X grows'

TT : ɬi:-stak-'a 'X takes care of Y'

TT : staknan 'X rests'

These examples suggest that the *-nVn* ending was historically a separate morpheme. Synchronically it also

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behaves as a morpheme even in forms such as those in (294) where it may no longer have an antipassive function. In the causative forms of these verbs, the *-nVn* is lost and the dative suffix, *-ni* is then added as it would be to a transitive stem:

(296) ma:qamani:-y 'X makes Y play'

ma:paɬni:-y 'X makes Y sweep'

ma:stakni:-y 'X makes Y rest'

ma:saqni:-y 'X makes Y get firewood'

ma:ɬtilini:-y 'X makes Y fly'

ma:ta:nk'iwini:-y 'X makes Y climb a tree'

ma:ɬt'uhni:-y 'X makes Y jump down'

For those speakers whose grammar allow *-ni* and *-nVn* to co-occur in non-causative forms, *-ni* is linearly ordered before *-nVn* (as shown in the chart in 2.3.1). Similarly, while any transitive verb stem may carry the suffix *-nVn*, in its causative form the *-ni* suffix must immediately follow the stem.[6]

[6] This is can be seen in such forms as the following:

a. k-la:n-i-y
1sub-carry-dat-impf
'I owe it to X (or I carry it to X)'

b. k-la:-ni-nin
1sub-carry-dat-detran
'I owe it'

c. štaq-ni-nin-ka-l laqč'i:ti
give-dat-detran-pass-pfv clothes
'clothes were given (to someone)'

It should be noted, however, that though all these forms occurred in natural, unelicited speech, not all speakers consider (b) and (c) to be well-formed.

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These facts, along with the truncation occurring in (296) can be accounted for by the simple fact that *-ni* must immediately follow the verb stem. This then requires application of the following rule (which is independently needed, see 3.3.3) for *-ni* to occur with such verbs:

(297) $\underset{Vb}{[}\ \underset{Vb}{[X]}\ +nVn] \rightarrow \underset{\substack{Vb \\ [+trans]}}{[X]}$

As stated this truncation rule would include the intransitive verb stems ending in *-nVn* even though the morpheme may not be a 'detransitivizer' in those instances. The rule mentions only the form of the morpheme, not its meaning[7]

In summary, Tepehua intransitive verb stems ending in *-n* regularly require the *-ni:* ending in their causative form. One set simply adds the suffix to the end of the intransitive base (292). Another set -- those ending in the morpheme *-nVn* -- lose that morpheme and *-ni:* follows the truncated stem (294).

Tepehua intransitive verb stems that end in non-nasal consonants usually simply follow the rule in (275) above and do not require the *ni::*

[7] See Aronoff 1976:7-17 for argument re. '...what is essential about a morpheme: not that it mean, but rather merely that we be able to recognize it. A morpheme is a phonetic string which can be connected to a linguistic entity outside that string. What is important is not its meaning, but its arbitrariness.'. It should be noted that a similar position (though with different motivation) was held by e.g., Harris 1951 (whom Aronoff mentions) as well as Bloomfield 1933.

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(298) a. tampus-a ma:tampusu:-y

'it excretes pus' 'X makes pus come out'

b. laqpus-a ma:laqpusu:-y

'it passes through' 'X makes it pass through'

c. šiš-a ma:šiši:-y

'Y dries' 'X dries Y'

d. skah-a ma:skaha:-y

'Y sours' 'X sours Y'

However, a very few forms have apparently changed (perhaps partly by patterning after the transitives and nasal-final intransitives) and now end in *-ni:* in their causative forms.[8]

(299) a. pu:c'is-a ma:pu:c'isni:-y

'it gets dark' 'X makes it get dark'

b. šiyaš-a ma:šiyašni:-y

'Y gets jealous' 'X makes Y get jealous'

c. pistu'aqs-a ma:pistu'aqsni:-y

'Y hangs by the neck' 'X hangs Y by the neck'

d. stak'-a ma:-stak-ni:-y

'Y rests' 'X causes Y to rest

The syntactic and morphological causatives in Tepehua are not fully synonomous. Note the following:

[8] I don't know what exceptions, if any, exist in the Huehuetla and Pisa Flores dialects. I do know that the Huehuetla form for (299d) is not an exception, i.e., the expected form, *ma:stak'a:-y*, occurs. In Tlachichilco, however, this simple form has acquired a different meaning: 'X greets Y.' To specify the 'X causes Y to rest' the form in (299d) is required.

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(300) ki-maka:-ɬ ka-k-laqc'i- ɬ

1OBJ-make-PFV IRR-1SUB-see-PFV

'X made me see it.'

(301) ki-ma:-laqc'in-i:-ɬ

1OBJ-CAUS-see-DAT-PFV

'X made me see it.'

Though I've given them the same English gloss, Tepehua speakers assign different paraphrases to the following forms. The paraphrases offered to (300) and (301) were (302) and (303), respectively:

(302) ki-ɬi:hun-i-ɬ ka-k-laqc'i-ɬ

1OBJ-tell-DAT-PFV IRR-1SUB-see-PFV

'X told me to see it.'

(303) ki-ma:-su:-ni-ɬ

1OBJ-CAUS-appear-DAT-PFV

'X showed it to me.'

The semantic difference between morphological and syntactic causatives in Tepehua, then, parallels the often observed cross- linguistic tendency for there to be an iconic relation between how direct the causation is and tightness of the morpho-syntactic linkage.

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2.3.1.2 Decreasing valence

There are two suffixes which decrease the valence of the verb: the reflexive-passive, *-kan*, and what I am calling the antipassive, *-nVn*. One of the most common discourse functions of both of these suffixes is disambiguating actor-undergoer reference. Tepehua, as noted in chapter 1, has 'free' word order, yet, unlike many 'free word-order' languages, there is no case-marking on the NPs.[1] As there is no marking of pronominal forms on the verb for either third singular subject or third singular object, ambiguity often occurs (especially in narratives):

(304) a. sa:-ɬ Kwan Jose
hit-PFV Juan Jose
'Juan hit Jose' or 'Jose hit Juan'

b. st'a:-ni-y Sendo Kwan
sell-DAT-IMPF Rosendo Juan
'Rosendo sells it to Juan' or 'Juan sells it to Rosendo'

[1] This is not uncommon in Mesoamerican languages. Thus the discussion here (including the ambiguity problem and function of passive and antipassive) is true also of Highland Popoluca of the Mixe-Zoque family (Juanita Watters, p.c.)

In Tepehua there are several criteria that are involved in 'deciphering' subject in clauses which have two or more third singular arguments: (1) real-world and contextual knowledge; (2) word-order (the immediate post-verb position in a transitive clause *tends* to be that of nonsubject); and, (3) presence of the definite article (the subject is often more likely to be so marked). See 1.2.

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c. kit'in k-ɬi:la-y sa:-ɬ Sli:pi ni Che

1PRO 1SUB-believe hit-PFV Felipe ART Jose

'I believe Felipe hit Jose' or 'I believe Jose hit Felipe'

Probably the most frequent way of disambiguating the above cases is by use of passive and/or antipassive. Thus the following constructions are commonly used when there is need to disambiguate the actor and undergoer:

(305) sa:-ka-ɬ Kwan, wa: sa:-na-ɬ Jose

hit-PASS-PFV Juan, FOC hit-AP-PFV Jose

'Juan was hit, Jose hit.'

(306) st'a:-ni-ka-ɬ wa: Sendo, st'a:-na-ɬ ni Kwan

sell-DAT-PASS-PFV FOC Rosendo, sell-AP-PFV ART Juan

'Rosendo was sold to, Juan sold.'

Similarly, in narratives the most common quotation formulas use these forms:

(307) [QUOTE], naw-ɬ ni Kwan, hun-ka-ɬ ni Jose

say-PFV ART Juan, say-PASS-PFV ART Jose

'[QUOTE], said John, Jose was told.'

Van Valin (to appear a) presents the following pattern of voice distinctions cross-linguistically ('where 'X' refers to the non-canonical morphosyntactic coding of the argument', i.e., non-occurrence or occurrence as an oblique):

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(308) Macrorole --> X

a. Intransitive Verbs:

Not allowed, e.g. English

(human) A only, e.g. Dutch, Italian, Icelandic

(human) A or U, e.g. Turkish, Tepehua

b. Transitive Verbs: If macrorole is A, then passive

If macrorole is U, then antipassive

As will be seen, in Tepehua, the passive-reflexive suffix, *-kan*, occurs on intransitive verbs as well as transitive verbs. On the former it simply marks the macrorole (actor or undergoer) is unspecified. On the transitive verbs, it specifically marks the actor as unspecified, although I will suggest the macrorole is still present; it is simply syntactically unrealized. Any remaining core argument then assumes subject status. It serves to determine the mapping of macroroles onto morphosyntactic positions, with the primary function being that noted above: disambiguating actor-undergoer reference.

The antipassive suffix, *-nVn*, only occurs on transitive verbs and, unlike the passive-reflexive suffix, 'removes' the undergoer macrorole. As will be seen, this has the general effect of turning accomplishment verbs into activity verbs.

The passive construction, then, affects the syntactic encoding of arguments, while the antipassive construction affects the lexical encoding of arguments (and indirectly their syntactic encoding). The following subsections will

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discuss various details relating to the constructions in which these suffixes occur.

2.3.1.2.1 Passive-Reflexive, -kan

The Tepehua suffix *-kan* may occur on intransitive or transitive verbs. In every instance the argument which would normally assume subject status is obligatorily absent:

(309) a. č'an-ka-ɬ stapu
sow-PASS-PFV bean
'Beans were sown.'

b. k-štaq-ni-ka-ɬ pa:n
1SUB-give-DAT-PFV bread
'I was given bread.'

c. 'aniy š-'alin-kan maqan-ča ni aniy čaqa:
here PT-be-PASS-IMPF long.time-ago ART this house
'Here there was someone(s) in this house long ago.'

d. la: 'akamin-kan tehkan ha:ntu ɬi:ɬiy
very smell-PASS(IMPF) when NEG daily
ka-p'aš-t'i
IRR-bathe-2SGSUB
'One really smells when not bathing daily.'

e. čaway ka-tapasa-kan-a: ni 'aniy tin tus 'ap'ančiš
now IRR-pass.by-PASS-FUT ART this road until soon
'Now someone(s) is/are going to pass by on this road soon.'

While (a) and (b) are examples of *-kan* occuring on transitive verbs, (c), (d) and (e) are examples of its occurrence with intransitive verbs. According to the

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fomulation in (308), only the forms on transitive verbs are truly passives within an RRG framework. Note, however, that though the resulting construction is different, in both cases *-kan* has the same function: it marks the highest-ranking macrorole (the argument that would assume subject position) as syntactically absent.

The only restriction on the occurrence of *-kan* is that the macrorole that is unspecified must have a human or personified referent. Note the following examples:

(310) a. wa: taqta-ɬ tawn ki'w, wa: maqni:-ɬ ni sasan
FOC fall-PFV one tree FOC kill-PFV ART skunk
'A tree fell over, it killed the skunk.'

b. *wa: taqta-ɬ tawn k'iw, wa: maqni:-ka-ɬ ni sasan
FOC fall-PFV one tree FOC kill-PASS-PFV ART skunk
'A tree fell over, the skunk was killed.'

c. wa: ma:pa:'ani-ɬ ki-laqah, wa: maqni:-ka-ɬ
FOC shoot-PFV 1POSS-brother FOC kill-PASS-PFV
ni sasan
ART skunk
'My brother shot at it, the skunk was killed.'

(311) a. *ṡka-ka-ɬ
hurt-PASS-PFV
'Something hurts.'

b. *'ayn-kan ta'an tama:-y ṡka:n
grow-PASS(IMPF) where lie.down-IMPF water
'Something grows where it rains a lot.'

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c. 'ayn-kan laksniy ma:s ha:ntu 'oš ka-way łi:łiy
grow-PASS(IMPF) slow though NEG good IRR-feed daily
'Someone grows slowly even though not feeding them well daily.'

Thus, (310b), the passive counterpart to (310a), is ungrammatical because the actor is nonhuman. The same form in (310c), however, is grammatical since it has a human actor. The form in (311a) is ungrammatical, since the single argument os *ška*, 'hurt,' must be a body-part. The single argument of *'ayn*, 'grow,' in (311b) is understood to be nonhuman (i.e., a river or plant) and so its form with *-kan* is ungrammatical. In (311c), however, the same form is acceptable, assuming the single argument of 'grow' is a child.[2]

The fact that even when the actor is syntactically absent it receives a 'human or personified' interpretation suggests that it has some semantic presence in the clause. This is not unusual. The literature has numerous references to passive constructions and inchoatives such as the following in English (examples from Zubizarreta 1985):

(312) a. The boat was sunk voluntarily / intentionally.

b. *The boat sunk voluntarily / intentionally.

[2] There is actually some variation among speakers regarding this constraint. While some only accept a construction with *-kan* if the highest macrorole argument is human or personified, others will accept it if it is imply animate (without any obvious personification). Thus, speakers differ on the acceptability of the following clause if the understood subject is 'pigs':

(i) 'alin-kan
exist-PASS(IMPF)
'Something exists / is present.'

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Zubizarreta suggests 'that an agent argument is lexically present in passives' such as (312a), though it is syntactically absent. (Of course, there is no agent lexically present in the inchoative example, thus accounting for the difference in acceptability.) This observation agrees with Foley and Van Valin 1984:

> Voice deals only with the morphosyntactic status of actor and undergoer and not with the determining of which arguments in the logical structure of the verb are linked to them. (1984:183)

The suffix *-kan* also marks reflexive constructions (with the same constraint). Thus, there is potential ambiguity between a passive or a reflexive interpretation.[3] In most instances, the nature of the action denoted by the predicate or the context will favor one interpretation over another. Otherwise, the reflexive interpretation can be made explicit by the use of the reflexive form *'aman*, 'self' (obligatorily possessed):

(313) a. wa: k-cak'a-ka-ɬ

FOC 1SUB-bite-PASS-PFV

'I bit myself.'

?'I was bitten.'

b. ka-laqc'in-k'an -e -'i me-'eman

IRR-see-PASS-FUT-2SUB,FUT 2POSS-self

'You will see yourself.'

[3] Such an ambiguity has often been reported in other languages. Perlmutter and Postal (1984:135) account for such cases by (roughly) the following generalization: in both passive and reflexive clauses the initial 2 is also a final 1.

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c. maqni:-putun-kan ṡ-'aman

kill-DESID-PASS(IMPF) 3POSS-self

'X wants to kill himself/herself.'

These all have reflexive readings: in examples (b) and (c) the reflexive is made explicit by the presence of *'aman*. In (a) the reflexive reading is reached by inference: the passive form requires a human actor; since the most likely human actor in this case is the same as the undergoer, the passive with *cak'a*, 'bite,' is invariably interpreted as reflexive (even without *'aman*).[4]

In passive clauses, as shown, the highest ranking macrorole is oabligatorily absent. Of the remaining core arguments the one that is highest on the hierarchy in (80) (section 2.1) is usually marked by the subject proform, as in (313a) and (313b), above. Thus, the proforms suggest that the non-actor core argument in each of the clauses above has assumed subject status. The foregrounding of a non-actor argument in transitive clauses is also demonstrated in sequences of clauses with null anaphora. Tepehua narratives often contain such sequences in which it is understood the subject remains the same. Note the following text portion:

[4] This is potentially more ambiguous for those speakers that allow the 'understood subject' to be simply animate rather than human. Thus, two of my consultants, differing from others, claim (a) could possibly be used if a dog had bitten the speaker.

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(314) narrative excerpt:

'eṡ wa: nahun ni ṡanati, ka- 'ost'ay-ċa porke
then FOC say(IMPF) ART woman IRR-get.up-now because

tunku:-ɬ -ċa, wa: hun-kan ni ṡapay. 'eṡ wa:
dawn-PFV-now FOC tell-PASS(IMPF) ART man. then FOC

'ostola-ɬ -ċa, 'eṡ wa: 'aqtay-ɬ -ċa sk'in
get.up-PFV-now then FOC begin-PFV-now request(IMPF)

ni ṡka:n. wa: mu:-ni-ka-ɬ -ċa. 'eṡ wa:
the water FOC serve-DAT-PASS-PFV-now then FOC

ċ'apa-ɬ -ċa ni 'iṡ-ċi:tah, 'aqtay-ɬ -ċa
grab-PFV-now ART 3POSS-machete, begin-PFV-now

waqa-nan. 'eṡ waqa-nan-'o:-ɬ -ċa, 'eṡ 'aqtay-ɬ -ċa
sharpen-AP. then sharpen-AP-COMP-now then begin-PFV-now

ta-wayn-ċoqo-y
3SUB-eat-REP-IMPF

Then the woman said, 'Get up because it has dawned,' the man was told. Then he got up, he began to ask for water, he was served it. Then he grabbed his machete, he began sharpening. Then he finished sharpening, then they began to eat again.

Here, as is generally the case in Tepehua, 'same subject' is assumed in the clauses with null anaphora. The subject switches from the woman to the man at the end of the first quote and continues to be the man until the final verb which is marked for third plural subject. This is an example of the primary function of passive in Tepehua texts: keeping track of referents. The passive form *hunkan*, 'X was told,' establishes the man as referent and the passive form *mu:nikaɬċa*, 'X was served it,' maintains the man as referent. Similarly, observe the following portion (from the same story):

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(315) narrative excerpt:

čun, wa: k-t'ahun makča:-n, wa: nahun ni ha:ci'i
yes, FOC 1SUB-be(IMPF) cook-INF FOC say(IMPF) ART girl

ka-tawɬ -čiy -ča, wa: hun-kan ni ša:nati
IRR-sit-HERE-now FOC tell-PASS(IMPF) ART woman

mu:la:-ni-ka-ɬ ni 'is-t'a:nci, 'eš wa: tawla-ɬ -ča
set-DAT-PASS-PFV ART 3POSS-chair then FOC sit-PFV-now

yu: ha:ci'i t'ahun makča:-n la: k'usi c'a:luk'u
ART girl be(IMPF) cook-INF very nice tortilla

maka:-y šoqta yu: ɬa:-'an ni laka: kuštu
make-IMPF all the DIR-go ART PREP cornfield

mu:la:-ta-ča. mu:la:-ta mo:le, t'ahni:. 'eš tawaɬ
put.in-PF-now put.in-PF mole turkey and then

'aqtay-ɬ -ča lakɬka-ni-kan, hun-kan-č
begin-PFV-now gossip-DAT-PASS(IMPF) tell-PASS(IMPF)-now

čiwi:nti yu: ha:ntu laqsawaɬ ka-wa:-ɬ yu: ša:nati
word ART NEG true IRR-become-PFV ART woman

nahun para ka-ta-la:-škay-ɬ
say(IMPF) so.that IRR-3SUB,PL-REFL-hate-PFV

'Yes, I'm cooking,' says **the girl**, 'Sit down,' **the woman** is told. She is set a chair, then whe sits down. **The girl** was cooking real nice tortillas, she makes everything that she takes to the cornfield, put in (a basket). She has put in mole and turkey. Then she began to be gossipped to, is told words that aren't true, **the woman** wants them to hate each other.

Again, notice that the passive construction serves to allow null anaphora to mark 'same subject' across clauses. As is typically the case, each time a change in subject occurs, the new subject is referred to by a full NP (in bold print in the excerpt); null anaphora signals 'same subject.' However, null anaphora can mark 'same subject' across clauses often only due to the availability of the passive construction. Thus, the woman becomes subject at the end of the first quote and continues as subject --by passivization

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--until the next mention of the girl. Again, passivization allows null anaphora to mark the subject as maintained until the next time the subject is marked by a full NP, i.e., 'the woman,' in the final clause.

2.3.1.2.2 **Antipassive, -nVn**

Though the most common examples of antipassives are the constructions found in ergative languages which allow the actor to occur as an absolutive, antipassives are also found in accusative languages, as the formulation in (308) suggests. The function of an antipassive will be different in an accusative language, of course. As foregrounding passives are found only in accusative languages, so foregrounding antipassives are found only in ergative languages. Foley and Van Valin (1984) discuss antipassive constructions in accusative languages. Two of the mechanisms they discuss are noun-incorporation and what is sometimes called an 'indefinite object' marker. The closest Tepehua comes to noun-incorporation is the occurrence of body-part prefixes on verbs, though this usually does not result in rendering a transitive verb intransitive (but see discussion in 2.3.1.3). Much more productive is the suffix *-nVn*, which clearly has a detransitivizing function. More specifically, it has the effect of removing the undergoer macrorole from the argument structure of a verb. As in the RRG formulation of voice in (308), the antipassive only occurs on transitive verb bases. Some examples follow:

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(316) 'aɬahu-y 'aɬawa:-nan

steal-IMPF steal-AP(IMPF)

'X steals Y' 'X steals'

(317) pa:stak-'a pa:stak-nan

think-IMPF think-AP(IMPF)

'X thinks of Y' 'X thinks'

(318) pu:te'e-y pu:te'e-nin

recount-IMPF recount-AP(IMPF)

'X (re)counts Y' 'X (re)counts' [also, 'X reads (Y)']

Also note that according to (308), *-nVn* marks the undergoer as unspecified, not necessarily the syntactic object of the verb. Thus, if a valence-increasing prefix (i.e., of the 'prepositional' type) occurs on a transitive verb base *-nVn* does not affect the status of what might be considered the 'direct object' (i.e., the object of the 'incorporated' prefix). Rather, when the antipassive suffix occurs on such a verb, it is the undergoer (the 'original direct object') that is rendered unspecified; the argument associated with one of the valence-increasing prefixes remains unaffected. Note the following examples:

(319) a. pu:-maqni:-nin-ka-ɬ ni rifle

VIA-kill-AP-PASS-PFV ART rifle

'The rifle was the means by which killing was done.'

b. *pu:-maqni:-nin-ka-ɬ ni mapači

VIA-kill-AP-PASS-PFV ART raccoon

'The raccoon was killed by means of something.'

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(320) a. Che t'a:-st'a:-na-ɬ Kwan

Jose COM-sell-AP-PFV Juan

'Jose sold with Juan.'

b. *Che t'a:-st'a:-na-ɬ stapu

Jose COM-sell-AP-PFV beans

'Jose sold beans with someone.'

Thus, in the (a) examples the argument that is licensed by a valence-increasing affix is maintained as a core argument, in the first instance assuming subject status in a passive construction. It is the nonsubject core argument of the underived form --the undergoer --that is unspecified. The (b) examples are ungrammatical because even though the argument of the prefix is absent, the undergoer is still present in spite of the antipassive suffix.

As noted in 2.3.1.1, in the presence of the dative suffix, unlike the valence-increasing prefixes, an argument in the LS of the verb that is a marked choice for undergoer (usually the locative) is assigned undergoer status. This predicts, then, that if the antipassive suffix *-nVn* were to occur, its effect would be significantly different than that noted above. Specifically, it should mark as unspecified not the theme of the base verb, but the argument associated with the dative suffix. Though the dative and antipassive suffixes rarely co-occur (and are rarely considered acceptable), there are at least two attested instances; and in both cases, our prediction holds true:

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(321) st'a:-ni-nin laqč'i:ti

sell-DAT-AP(IMPF) clothes

'X is selling clothes (to someone).'

(322) k-ła:n-i-nin laqa-tawn piyu:

1SUB-owe-DAT-AP(IMPF) CLAS-one chicken

'I owe a chicken (to someone).'

This fact strongly correlates with the distinction drawn in 2.3.1.1 between the preposition-like function of the valence-increasing prefixes and the applicative function of the dative suffix: the former involve a syntactic encoding of arguments, not affecting the mapping onto macroroles; the latter involves a lexical encoding of an argument, that argument occurring as a marked choice for undergoer status.

Further, the distinction drawn between the passive construction as affecting the syntactic encoding of arguments and the antipassive as involving the lexical encoding of arguments is supported by these facts. In a passive construction, as we've seen, the argument of a valence-increasing prefix is assigned subject status; however, that same argument is not affected by the presence of the antipassive suffix.

Also note the significantly different effect the two constructions (passive and antipassive) have on the basic argument structure of their host verb. The passive has virtually no effect; it only effects which argument assumes subject status. The antipassive, on the other hand, has the general effect of changing an accomplishment verb into an

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activity verb. Except for its use with passive in disambiguating reference as shown earlier in (305) and (307), it most commonly occurs in the imperfective aspect and as such virtually always has the effect of making the verb reference that of a general activity, often specifying a profession, of the subject:

(323) Jose st'a:-nan

Jose sell-AP(IMPF)

'Jose sells (as a profession)'

This conventionalized association with habitual activity is related to the function of the antipassive in the formation of agent (and co-agent) deverbal nouns, as will be seen in 4.2.3.4.

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2.3.1.3 Body-part prefixes

Tepehua (and Totonacan in general) has, for most body parts, a corresponding reduced form that occurs as a prefix on verbs (and deverbal nominals), some adjectives, and numerals. With numerals they occur as a subset of a more extensive group of classifiers. (The other numeral classifiers, however, do not occur regularly on verbs).

Not all body-parts terms have corresponding body-part prefixes. A list of body-part terms (for the Tlachichilco dialect) and their corresponding prefixal forms (if any) follows:

(324) full noun form	prefix	gloss
maka:	maq-	hand
	mak-	
ċ'aha:	ċ'in-	foot
	ċ'an-	
muncan	munti-	forehead
'aqcoqoqni	coqoq-	knee
qatu:	qatu:-	leg
'aqoṡqoɬ	kakatu-	ear(outer)
laqċuɬ	lakpu:-	eye
	laka:pu:-	
	laka:-	
li:ṡin	kankapa-	nose
kiɬna	kik-	mouth
	kiɬ -	
	qaɬ -	

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tacala:ti	tasa-	tooth
akapi:	akapi:-	palate
pu:lakan	pu:laka-	back
pahan	*	stomach
tankilakna	tankilak-	chest
'aqṡp'un	'aqṡp'un-	elbow
sima'ati	*	tongue
'aspa:	'aspa:-	shin
piṡtu:	piṡtu:-	front of neck
'akapiya:	'akapi-	throat
'akpiṡan	'akpiṡa-	back of neck
lakatunah	laka-	body
laqṡtan	laqṡtı-	cheek
'akɬkati	*	brains
qaṡta:	*	lip
qaɬc'an	qalc'an-	jaw
c'aspu:	c'aspu:-	calf
tı:tampin	tı:-	buttocks
pu:'ew	pu:-	crotch
maqstu:	maqstu:-	elbow
laqastapu	*	pupil of eye
haɬa:nu:ti	*	heart
pu:lakna	pu:lak-	stomach
makɬuk'a	*	liver
palun	*	intestines
'awiɬ	*	biceps
'aqcuɬ	'aq-	head

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mah-'esi:ti	*	fingernail
ċ'an-'esi:ti	*	toenail
*	'aka-	tip of any extended part

It will be noted that internal organs and such do not have a prefixal form. A few additional forms that might be expected to have prefixal forms do not. There are, however, at least two ways in which such forms may occasion the prefixing of a body-part term to the verb.

First, forms that share a particular shape, specifically having a tip or point, often occur with the prefix *'akatan-*. This has no effect on the valence of the verb, the noun phrase referring to the body-part retaining its grammatical relation in the clause:

(325) 'akatan-ška-y ki-maj-'esi:ti
tip-hurt-IMPF 1POSS-hand-nail
'My fingernail hurts.'

(326) 'akatan-ška-y ki-sima'ati
tip-hurt-IMPF 1POSS-tongue
'My tongue tip hurts.'

Second, smaller body-parts may be marked as possessed by the larger containing body-part. In such instances, a body-part prefix referring to the smaller part may occur on the verb, the larger containing body-part remaining as the argument of the derived verb:

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(327) a. ṡ-'ukṡa kin-čaha:

3POSS-face/surface 1POSS-foot

'The face/top of my foot'

b. 'uk-ṡka-y kin-čaha:

surface-hurt-IMPF 1POSS-foot

'The face/top of my foot hurts.'

(328) a. ṡ-piṡtu: ki-maka:

3POSS-neck 1POSS-hand

'my wrist'

b. piṡtu:-ṡka-y ki-maka:

neck-hurt-IMPF 1POSS-hand

'My wrist hurts.'

(329) a. ṡ-tanti: kin-čaha:

3POSS-arch 1POSS-foot

'the arch of my foot'

b. tanti:-ṡka-y kin-čaha:

arch-hurt-IMPF 1POSS-foot

'The arch of my foot hurts.'

With such forms, the possessor of the body-part can be made a direct argument of the verb by affixation of the dative suffix, *-ni*:

(330) ki-'ukṡpu:-ṡka-ni-y ki-maka:

1OBJ-face-hurt-DAT-IMPF 1POSS-hand

'The palm of my hand hurts.'

It should be noted in addition, several forms can be additionally prefixed with *pu:-* to refer to the inside of the body-part:

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(331) k-pu:-kik-xka-y

1SUB-PU-mouth-hurt-IMPF

'The inside of my mouth hurts.'

(332) ka-k-po:-qal-ča'a:-y

IRR-1SUB-PU-mouth-wash-IMPF

'I'm going to wash out my mouth.'

Verb stems vary in their compatibility with body-part prefixes, a variation that may be grammatical to a certain extent but primarily guided by pragmatic factors. Thus body-part prefixes occur on verbs such as the following very productively (in fact, the first four verbs below probably occur more frequently with body-part prefixes than without):

(333) **č'ahu-** 'grow body or facial hair'

maq-č'aw-ta 'X has hairy hands/arms.'

hand-grow.hair-PF

kiɬ -č'aw-ti 'mustache'

mouth-grow.hair-NOM

(334) **'aqs-** 'squeeze (trans)'

pištu:-'aqs-a 'X strangles Y'

neck-squeeze-IMPF

po:-'aqs-a 'iš-pantalo:n 'X's pants are tight in the crotch'

crotch-squeeze 3POSS-pants

(335) **'ahu-** 'get wet'

laqa-'aw-ɬ 'X got all wet.'

body-get.wet-PFV

maq-'ahu-ta-ča 'X's hand/arm is wet.'

hand-get.wet-PF-now

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(336) **ṡka-** 'hurt'

mak-ṡka-y 'X's hand hurts.'

hand-hur-IMPF

Several verb forms only occur with body-part prefixes:

(337) **-'un** 'hit against something'

ċ'an'un 'X hit his foot against Y'

maqstu-'un 'X banged his elbow against Y'

(338) **-łpipihi** 'make itchy'

ki-mak-łpipihi-ł 'it made my hand/arm itchy'

1OBJ-hand-make.itchy-PFV

kin-ċ'an-łpipihi-ł 'it made my foot/leg itchy'

1OBJ-foot-make.itchy-PFV

However, other verb forms don't occur productively with body-part prefixes, though they often have lexicalized forms with specialized meanings:

(339) a.maq-ṡtaq-ya 'X hands Y over,' 'X gives Y up'

hand-give-IMPF

b.kił -k'aca:-y 'X tastes Y'

mouth-know-IMPF

c.k-laq-min-ta:-n 'I've come to visit you'

1SUB-eye-come-PF-2OBJ

d.[mahkun] 'X motions to Y'

mak-hun

hand-tell(IMPF)

There are various examples of lexical items with body-part prefixes have acquired an idiosyncratic (non-compositional) meaning. Several of these refer to perception

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and involve the standard verbs of motion, *min*, 'come,' *'an*, 'go,' *čin*, 'arrive here,' and *ča'an*, 'arrive there.' Note that in (340), below, the body-part marks the locative-goal of the motion, while in (341)-(343) the body-part refers to the locative-source or initiator (effector) of the motion:

(340) 'aka-min

point/nose-come(IMPF)

'X smells"

(341) łaka-čin

eye-arrive.here(IMPF)

'X sees this far.'

(342) łaka-ča'an

eye-arrive.there(IMPF)

'X sees that far.'

(343) kił-čin

mouth-arrive.here(IMPF)

'The noise of X reaches here.'

In some instances, two body-parts may appear in one verb form; in some cases, the 'inner' prefix refers to the body-part of the subject and the 'outer' prefix to the body-part of the object, as in the following example:

(344) kił -[č'in-ta:]-y

mouth-[foot-stand?]-IMPF

'X kicks Y in the mouth.'

However, other examples show the opposite pattern:

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(345) mak-'uks-k'aca:-y

hand-face-know-IMPF

'X feels the surface of Y with his/her hand.'

Presumably the determining factor in such forms is the pattern of lexicalization. (Thus in the first example, (344), the form *čint'a:-*, is a regularly occurring independent verb stem.)

It's clear from many of the above examples that the prefixation of a body-part prefix to a verb usually has a very consistent (and not very surprising) affect on the argument structure: in a clause with the corresponding verb form without the body-part prefix, the body-part is a direct argument of the verb; however, the derived verb with the body-part prefix takes the possessor of the body-part for its argument. In other words, it exemplifies what has been called 'possessor ascension' in Relational Grammar:

(346) a. ška-y ki-maka:

hurt-IMPF 1POSS-hand

'My hand hurts.'

b. k-mak-ška-y

1SUB-hand-hurt-IMPF

'My hand hurts.'

(347) a. k-ča'a:-l kin-č'aha:

1SUB-wash-PFV 1POSS-foot

'I washed my foot/feet.'

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b. k-č'an-ča'a:-l

1SUB-foot-wash-PFV

'I washed my foot/feet.'

Note that the body-part may correspond to what would be either the subject or the object of the non-derived verb. However, the following informal generalization can be made (one which is frequently observed in languages with body-part verbal affixes):

(348) If the base is a transitive verb stem, the body-part prefix may correspond to the object; otherwise it corresponds to the subject.

Thus note these forms:

(349) 'aq-tanu:-y

head-enter-IMPF

'X wears a hat.'

(350) č'in-ta:-y

foot-stand?-IMPF

'X steps on Y.' or 'X despises Y.'

(351) mak-ta:-y

hand-stand?-IMPF

'X's hand presses down on Y.'

(352) kiɬ -k'aca:-y

mouth-know-IMPF

'X tastes Y.'

(353) maq-ča'a:-y

hand-wash-IMPF

'X washes (Y's) hands.'

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The transitivity of this last verb is potentially ambiguous. Though the verb stem ċa'a:-, 'wash,' is clearly transitive. If the subject is washing someone else's hands, the full verb, like the bare stem, is transitive:

(354) k-laq-maq-ċa'a:-l ke-s'at'a-n

1SUB-3PLOBJ-hand-wash-PFV 1POSS-child-PL

'I washed my children's hands.'

However, if the subject is washing his/her own hands, the full verb has two key characteristics of an intransitive verb. First, the plural infinitival form is different (see chapter 2.5 for a discussion of infinitival forms). Thus, when the verb is refers to a transitive activity, the ending on the plural infinitive is *-nan*:

(355) ta-t'ahun maq-ċa'a:-nan sa-s'at'a-n

3PLSUB-be(IMPF) hand-wash-INF 3POSS-child-PL

'They're washing their childrens' hands.'

However, when the subjects are washing their own hands, the plural infinitive has the ending characteristic of intransitives, *-nin*:

(356) ta-t'ahun maq-ċa'a:-nin

3PLSUB-be(IMPF) hand-wash-INF

'They're washing their (own) hands.'

Second, as can be noted in (353) and (356), when the subject is washing his/her own hands, the verb does not require the reflexive/passive suffix *-kan*, a suffix which is required on any transitive verb to render a reflexive interpretation.

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The verb form *maqċa'a:-*, 'wash hands,' then, displays a characteristic that is extremely rare in Tepehua: variation between transitive and intransitive uses without further derivational morphology.

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2.3.2 Adverbial derivational affixes

As presented in 2.3, the Tepehua verb has several derivational affixes with adverbial functions. The first three to be discussed in this section I am claiming are core-level adverbials; in a sense, they have access to the internal structure of the core. The others, i.e., the clause-level adverbials do not have access to the internal structure of the core but rather have clause-level scope, operating over the core as an indivisible unit. As pointed out earlier, their morphological ordering reflects their scope differences.

2.3.2.1 Completive, -(q)'oho

The completive suffix *-'oho* ~ *-'o:*[1] (or its cognate) occurs throughout Totonac-Tepehua. In the highland dialect of Totonac it has become the marker of third person plural subject. However, in other Totonac dialects and in Tepehua dialects it regularly marks something like the totality of the action. Thus in Tepehua *-'oho* can be roughly described in the following way: with an intransitive verb it may denote the total set of members of a plural subject, or, with a singular subject, completion of the action. With a transitive verb it generally refers to the total set of members of a plural object. Note the following:

[1] Actually the general Tepehua form is better represented as *q'oho*; as elsewhere, however, I am using data from the Tlachichilco dialect (where [q'] --> [?]; see appendix).

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(357) čiwi:n-'o:-ɬ

talk-COMP-PFV

'X finished talking.'

(358) ta-st'a:-nan-'o:-ɬ ni lapana:k-ni

3SUBPL-sell-AP-COMP-PFV ART person-PL

'All the people sold.'

(359) ta-st'a:-'o:-ɬ ni lapana:k-ni

3SUBPL-sell-COMP-PFV ART person-PL

'The people sold it all.'

(360) lak-st'a:-ni-'o:-ɬ

3PLOBJ-sell-DAT-COMP-PFV

'X sold Y to all of them.' or

'X sold all of Y to them.'

However, a more careful account must refer to the aspectual status of the predicate. With statives, activities and achievements, it marks either the totality of the state or event or (with plural subjects) the totality of the set referred to by the subject. With accomplishments, it marks the totality of the set referred to by the direct object NP. Compare the following two sentences that differ only in the specificity of the Undergoer:

(361) a. Ni s'at'a-n ta-'u-'o:-ɬ ni pu:laqɬi

ART child-PL 3SUBPL-eat-COMP-PFV ART tamale

'The children ate all of the tamale(s).'

b. Ni s'at'a-n ta-'u-'o:-ɬ pu:laqɬi

ART child-PL 3SUBPL-eat-COMP-PFV tamale

'All the children ate some tamale(s).'

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In the above clauses, the aspect is largely determined by the specificity of the direct object. The clause in (a) is an accomplishment and that in (b) is an activity. Following the formulation just given, the completive suffix, -oho, signifies that all the tamales were eaten in (a); in (b) it signifies that each of the children got at least some portion of the tamales.

I propose the following as the form for the suffix:

```
(362) C V C V
      ¦ ¦  /
      ¦ ¦ /
      ? o
```

When the stress assignment rules assign stress to the second syllable of the suffix, the full syllable is retained and the unspecified C is pronounced as the default consonant /h/ (see Appendix and Watters 1987). When stress falls elsewhere (i.e., on the first syllable of the suffix or elsewhere in the verb), the unspecified C is not pronounced and the resulting post-lexical form is the following:

```
(363) C V  V
      ¦ ¦ /
      ¦ ¦/
      ? o
```

That is, the rule assigning the default values for the unspecified C slot is post-lexical[2] and, as will be seen below, must occur following the (post-lexical) rule that terminates phrase-final long vowels with glottal constriction (see Appendix).

[2] As they commonly are since they are generally non-structure-preserving (see Kiparsky 1985); however, see appendix.

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Such a structure would account for various facts that are otherwise anomolous. First, it accounts for the alternating forms of the suffix, *-'oho ~ 'o::*

(364) laqc'in-oho-y

see-COMP-IMPF

'X sees everything.'

(365) ka-laqc'in-o:-ya:

IRR-see-COMP-FUT

'X will see everything.'

Second, such a structure accounts for the stress assignment in first singular and third person perfective forms. That is, the 'stress shift' that occurs when the suffix *-ɬi* (see Appendix) is present also applies to these forms:

```
                C V C V
                ¦ ¦  /
                ¦ ¦ /
(366) laqc'in- ' o - y     -->   laqc'in-'oho-y

                C V C V                  C V V
                ¦ ¦  /                   ¦ ¦
                ¦ ¦ /                    ¦ ¦
(367) laqc'in- ' o - ɬ     -->   laqc'in'-o:-ɬ
```

Third, the second person singular perfective of a verb form ending in this suffix is what one expects of a form ending in a short vowel rather than a long vowel:

(368) miɬpa:-'o: *miɬpa:-'o:-t'i

understand-COMP(PFV,2SGSUB)

'You finished singing.'

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Thus, if the verb ended in a long vowel, we would expect the suffix *-t'i*; instead, we have the unsuffixed form that is characteristic of verbs ending in short vowels (see 2.4.5).

Finally, unlike typical phrase-final long vowels, forms such as that in (368) do not terminate in glottal constriction when phrase-final. This suggests that the ending /'o:/ is somehow different from other long vowels, a fact that follows from the representation in (362): it is a result of the 'collapse' of two short syllables rather than an underlying long vowel.

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2.3.2.2 Desiderative: -putun

The translation equivalent of 'X wants (for) Y to verb' in Tepehua is formed with the verb *nahun*, 'say", with the verb in the irrealis perfective form:

(369) k-nahun ka-mi-ɬ

1SUB-say(IMPF) IRR-come-PFV

'I want A to come.'

(370) kim-pay nahun ka-t'ap'ac'a:-t'i la:

1POSS-father say(IMPF) IRR-work-2SGSUB(PFV) PREP

'iṡ-kuṡtu

3POSS-cornfield

'My father wants you to work in his cornfield.'

However, for sentences in which the subjects of the matrix and subordinate clause are the same the normal form in Tepehua is monoclausal, the verb marked with the desiderative suffix:

(371) tapaca:-putun

word-DESID(IMPF)

'X wants to work.'

(372) 'ayah ta-miɬpa:-putun

very 3SUB,PL-sing-DESID(IMPF)

'They really want to sing.'

With the two main verbs of motions, *min*, 'come,' and *'an*, 'go", the desiderative is realized by the prefix *'uṡa-*

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(373) 'uṡi-min

DESID-come(IMPF)

'X wants to come'

(*min-putun)

(374) 'uṡa-'an

DESID-go(IMPF)

'X wants to go.'

(*an-putun)

Interestingly, complex verb stems built on a motion verb can often form their desiderative with either *-putun* or *'uṡi-*:

(375) ɬa:ka:-pu:-'an-putun ~ ɬa:ka:-pu:-uṡ-'an

face?-VIA-go-DESID(IMPF) face?-VIA-DESID-go(IMPF)

'X wants to believe Y'

Finally, it should be pointed out that the subject need not be animate. When inanimate it has the reading 'is about to' (cf. the Spanish *quiere llover*, 'it's about to rain.').

(376) 'iṡ-'alim-putun ni ki-ɬi'uti pero ha:ntu tama:-y ṡka:n

PT-be-DESID ART 1POSS-food but NEG lay.down-IMPF water

'My crop/food almost came about but it's not raining.'

The desiderative suffix in Tepehua is best treated as an adverbial rather than something similar to a verb-verb compound or other type of nuclear juncture. It is true that the most natural translations of forms with *-putun* suggest they are instances of multiple predicates in the LS. If that were the case, we would have the following contrast between core juncture with *nahun* (where the desired event is the

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second argument of the main verb) and nuclear juncture with *-putun*:

(377) [k-nahun [wa:cu: kit'in ka-k-laqc'i-l min-kafe]]

1SUB-say also I IRR-1SBU-see-PFV 2POSS-coffee

ACTOR ACTOR UNDERGOER

want' (I, [DO (I ,[see' (I, your coffee)])]);

'I want to see your coffee, too.'

(378) [k-laqc'im-putun min-kafe]

1SUB-see-DESID(IMPF) 2POSS-coffee

ACTOR UNDERGOER

want' (I, [DO (I, [see' (I, your coffee)])])

'I want to see your coffee, too.'

Both sentences would have the same logical structure, but due to the lexical encoding of WANT in (378), there is only the one actor macrorole supplied by the verb stem.

However, we run into some difficulty with such an approach with forms such as the following:

(379) ni:-putun-kan

die-DESID-PASS(IMPF)

'Someone wants to die.'

(380) st'a:-nan-putun-kan

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sell-AP-DESID-PASS

'Someone wants to sell.'

(381) pa:ška:-putun-kan

love-DESID-PASS(IMPF)

'X wants to be loved.'

In an approach assuming *-putun* involved an abstract predicate WANT, the first argument of WANT in (379) and (380) would be an argument that is not present in the morphosyntax. In (381), on the other hand, it would be the subject of the passive construction, the undergoer of the verb. The only generalization possible would be something like the following:

(382) The first argument of the predicate encoded by *-putun* is the highest-ranking macrorole that is a morphosyntactic argument of the verb. If there is no morphosyntactic argument, it is the highest-ranking macrorole.

This rather awkward disjunctive account can be avoided if we treat *-putun* in a manner similar to its neighboring suffixes (*'oho*, 'completive' and *-ċoqo*, 'again'): as an adverbial. The fact that it is given an 'undergoer reading' in passive forms such as (381), then, parallels the facts regarding adverbs in English that have been described as VP-external (such as *reluctantly, eagerly*, etc; see McConell-Ginet 1982 for detailed discussion).

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2.3.2.3 Repetition: -coqo

The suffix *-ċoqo* is apparently a Tepehua innovation. Its cognate form in Totonac does not occur as an affix but does show up in some dialects in complex verb stems:

(383) taċoqo 1. A delays. 2. A turns back 3. A changes his/her mind (Aschmann 1973)

(384) a'n-ċoqo (with *a'n*, 'go") A returns to his/her place (Reid and Bishop 1974)

The second example of Totonac *-ċoqo* is formally similar to a suffix but apparently is not a productive process; also in this dialect it occurs in the form *taċoqo* but meaning 'X stays' or '(fish) gets caught (in a net).'

In Tepehua it also occurs as part of a few verb stems:

(385) ta-maqalċoqo-y ni s'at'a-n
3SUB,PL-go.around-IMPF ART child-PL
'The children are going around (in a parade).'

(386) ti:-ċoqo-'an
buttocks-REP-go(IMPF)
'X is going backwards.'

(387) ti:-ċoqo-min
buttocks-REP-come(IMPF)
'X is coming backwards.'

However, its most frequent use is as a verbal suffix. As a suffix, it can occur on virtually any verb. Its semantics are remarkably similar to those discussed by Dowty for the English prefix *re-* (1979:256ff.) For activities, it signifies repetition of the action:

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(388) ɬiy ka-h-kuṡtu-čoqo-ya:

tomorrow IRR-1SUB-work.in.cornfield-REP-FUT

'I'll work in the cornfield again tomorrow.'

(389) čiwi:n-čoqo-ɬ

talk-REP-PFV

'X talked again.'

For verbs involving the logical operator BECOME with a result-state (i.e., achievements and accomplishments) its meaning is that the result-state of an accomplishment is true for a second time, but not necessarily that the bringing about of this state occurs for the second time. (Dowty 1979:256)

This is true for all of the following:

(390) ki-ṡtaq-ni-čoqo-ɬ

1OBJ-give-DAT-REP-PFV

'X gave it back to me.'

(391) 'an-čoqo-ta-ča

go-REP-PF-already

'X is going back.'

(392) palay hun-čoqo-ɬ

better/well become-REP-PFV

'X got better/ well again.'

(393) ma:paɬ -čoqo-ɬ tačun yu: 'iṡ-la:ni-nin

pay-REP-PFV all PRO PT-owe-AP

'X paid back everything s/he owed.'

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(394) ka-ma:-lakč'aw-č'o'o ni ma:ti:

IRR-CAUS-close-REP(2SGSUB,PFV) ART door

'Close the door again.'

Thus in each example above, *-čoqo* does not necessarily imply that the actor is repeating an action but rather that the resultant-state is a state that occurred previously. (394), for example, is appropriately said when telling someone to close a door that was closed previously, though the addressee may never have closed that door before.

An interesting characteristic of *-čoqo* is that it may precede or follow the desiderative suffix, *-putun*. The two possible orders are given different interpretations reflecting the difference in scope of the adverbials:

(395) k- wayn-čoqo-putun

1SUB-eat-REP-DESID(IMPF)

'I want to eat again.'

(396) k- wayn-putun-čoqo-y

1SUB-eat-DESID-REP-IMPF

'Again I want to eat.'

The second example is considered to be basically synonomous with *k-čawa:ni-čoqo-y*, 'I'm hungry again' and doesn't necessarily imply the subject has eaten. (395) is the most frequent (the 'unmarked') order and apparently may have either reading (i.e., it either implies the subject has eaten and now wants to eat again or is similar to (396)).

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The function of *-ċoqo* as a core-level adverbial will be contrasted with that of the clause-level adverbial, *-pal*, in the following section.

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2.3.2.4 Clause-level adverbials

There is a central semantic factor held in common by the three suffixes discussed in this section: they each designate some temporal relation between the state or event expressed by the clause and the context (e.g., to other states or events that may or may not be explicitly mentioned.) It is this function that marks all three as clause-level adverbials[1], in contrast to the core-level adverbials of the preceding three sections. The core-level adverbials (-*'oho*, 'completive,' -*ćoqo*, 'again,' and *putun*, 'desiderative') all affect the internal semantics of the core's logical structure in some way, relating directly to properties of individual arguments and their relation to the state or event.

Thus, -*'oho* may refer to the totality of members of the set designated by the subject, by the object, or to the totality of the action itself. Similarly, -*ćoqo* refers to the fact that some state or activity within the LS is predicated as re-occurring. Finally, -*putun* marks volition on the part of one of the arguments within the LS in regard to the event.

In marked contrast is what I'm calling clause-level adverbials. The clause-level adverbials function as operators over the LS; i.e., they don't have any internal

[1] These are of the same order as what are called 'peripheral operators' in Foley and Van Valin 1984; in recent work, called 'clausal operators': see Van Valin to appear c.

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effect on the interpretation of the core. This contrast should become clear in the following discussion.

All three of these suffixes are rather infrequent in the Tlachichilco dialect. Their functions are often taken up by either (possibly more recent) Tepehua constructions or by Spanish loans.

The form -pal is usually best translated 'again,' signifying the event or state referred to by the core has attained at some previous time. Recall that a similar function is served by the core-adverbial, -*čoqo* (see 2.3.2.3) with which it often occurs:

(397) takyaw-čoqo-paɬ -ča

run-REP-PAL-already

'X ran again (as usual).'

Unlike -*čoqo*, however, it cannot simply refer to the repeat occurrence of some state or activity within the logical structure. Rather, it must be the entire event referred to by the LS is repeated. Compare the following forms:

(398) ka-min-čoqo-ya:

IRR-come-REP-FUT

'X will come again (=come back, return)'

(399) ka-min-pal-a:

IRR-come-PAL-FUT

'Again, X will come.'

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The most natural readings of these forms can be represented in the following way to try to present the differences in scope between the two adverbials:

(400) ka-min-čoqo-ya:

[BECOME NOT be.at'(x,y)] & [BECOME again be.at'(x,here)]

(401) ka-min-pal-a:

again [BECOME NOT be.at'(x,y)] & [BECOME be.at'(x,here)]

This semantic difference leads to the fact that the two constructions are typically associated with differing pragmatics. For example, my Tepehua consultants tell me that (400) might be used when someone has temporarily left home to find work in Mexico City but will come back to live in his home again; (401), however, would be used when someone has moved away from home but will come back for short visits.

Similarly, with other achievements this scope difference is borne out. Compare the following two forms and their logical structures:

(402) ma:-laqti'a:-čoqo-ʔ ni ma:ti:

CAUS-be.closed-REP-PFV ART door

'X closed the door again/ reclosed the door.'

[do'(X,...)] CAUSE [BECOME again be.closed(door)]

(403) ma:-laqti'a:-paʔ ni ma:ti:

CAUS-be.closed-PAL ART door

'Again, X closed the door.'

again [do'(X,...)] CAUSE [BECOME be.closed(door)]

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While (402) can be used simply when the door had been previously closed (regardless of how it got closed), (403) can only be used if the subject had previously closed the door.

Another difference between *-pal* and *-ċoqo* is that only the former has acquired readings involving further types of clause-level modifiers. Thus in the Huehuetla dialect it is often used when 'an unexpected turn of events is indicated or an unwarranted attitued or action is being reproved,' (D. Herzog ms) as in the following (Huehuetla) sentence:

(404) laqc'im-p'ala-y ni ha:ntu la-y 'ik-tamahu-y hu
see-PAL-IMPF(2SUB) CMPL NEG able-IMPF 1SUB-buy-IMPF ART
kim-pumpu'. hu 'uṡint'i 'atumpa hu
1OBJ-clothes. ART you different ART
k'in-t'om-p'ala-y hun-i-i'
1OBJ-be-PAL-IMPF(2SUB) tell-DAT-INF
'You *see* that I can't buy my clothes. You're telling me a different thing (that will cost money).'

Here the suffix, *-pal*, doesn't carry the meaning 'again' at all; rather it seems to mark some disgust on the speaker's part as he points out his poverty --a feature that was certainly obvious to the addresse.

Perhaps the most frequent use of *-pal* in the Tlachichilco dialect area also has to do with a distinct clause-level semantic notion. It occurs most frequently with the verb *nahun*, 'say' (and often, in turn accompanied by the

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clitic *-ka:*, see 2.6). Here it usually has a type of evidential reading, signifying doubt on the part of the speaker as to the truth of what someone else has said:

(405) wa: ki:-la-l la:'aśka:n nawm-pala-y-ka:

FOC RET-do-PFV river say-PAL-IMPF-yet

'X went to the river, so s/he says.'

Given the distinction between core- and clause-level operators and adverbials in RRG, there is a possible explanation for why *-pal* should have developed these other senses and not the otherwise nearly synonymous suffix, *-čoqo*: only *-pal* is a clause-level adverbial and so more capable of assuming other clause-level functions.

The suffix *-'el* means roughly 'to do first (before something else)'. The event which follows may either be explicitly stated or be contextually determined:

(406) paś-'ela-ɬ eś 'a-ɬ la: 'iś-čaqa:

bathe-EL-PFV then go-PFV PREP 3POSS-house

'X bathed first then went to his/her house.'

(407) ka-wayn-eɬ

IRR-eat-EL

'Eat first!'

This suffix is thus semantically redundant with the adverb *p'unah*, 'first,' with which it often occurs, or which often occurs in its stead. (As will be seen in 2.6, *p'unah* is a clause- level adverb.) Thus the following three forms have identical interpretations:

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(408) a. miɬpa:-'ela-ɬ

sing-SEQ-PFV

'X sang first (before some event, e.g. before Y sang or before X did something else)'

b. p'unah miɬpa:-ɬ

first sing-PFV

c. p'unah miɬpa:-'ela-ɬ

first sing-SEQ-PFV

The last of these clause-level suffixes, *-(q)'aɬi* signifies 'always,' i.e., that the event or the state continuously occurs. In the Tlachichilco dialect area, *-'aɬi* never occurs in the perfective aspect:

(409) miɬpa-'aɬi-y

sing-CONT-IMPF

'X always sings it,' (implying s/he always sings a particular song).

(410) paṡ-'aɬi-y 'aniy laqṡqa:tih

bathe-CONT-IMPF here spring

'X always bathes at this spring.'

It is, however, attested in the Huehuetla dialect in the perfective aspect. Here it functions to specify the continuation of the resulting state rather than of the action itself:

(411) tapala-q'aɬi-ɬ-ċ wenq'en hu 'iṡ-t'aku:

change-CONT-PFV-now frog ART 3POSS-wife

'His wife was turned forever into a frog.' (Herzog ms.)

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As might be expected, this suffix results in different interpretations with different aspectual classes of predicates. With activities and states, it gives a reading in which the subject is continually involved in performing that activity or in that state:

(412) cihin-'aɬi-y

laugh-CONT-IMPF

'X always laughs.'

(413) 'oqsla:-'aɬi-y

be.on.surface-CONT-IMPF

'X is always on the surface.'

With achievements, it has an iterative reading: that the subject is continuously repeating the event:

(414) skaka-'aɬi-y

get.hot-CONT-IMPF

'X keeps getting hot.'

(415) ṡiṡ-'aɬi-y

get.dry-CONT-IMPF

'X keeps getting dry.'

(416) kuh-'aɬi-y

wake.up-CONT-IMPF

'X keeps waking up.'

This is the reading we would expect with achievements, of course, since they generally have a punctiliar nature. However, if an achievement verb with *-'aɬi* occurs in the perfect (see 2.4.1.3) it has a reading that is characteristic of statives. Again, this is what we would

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expect given the characterization of achievements presented in 2.1.1.). Thus compare (417) - (419), below, with (414) - (416), above:

(417) skaka-'aɬi-ta

get.hot-CONT-PF

'X is always hot.'

(418) ṡiṡ-'aɬi-ta

get.dry-CONT-PF

'X is always dry.'

(419) kuh-'aɬi-ta

wake.up-CONT-PF

'X is always awake.'

It is significant to note here that the interpretation of the scope of the affix -*'aɬi* and the perfect aspect suffix differs from the linear ordering of the morphemes. And it differs in just the way would expect, given that -*'aɬi* is a derivational affix with a clause-level scope, while -*ta* is an infectional affix and a nuclear operator.

(420) linear order of morphemes: [[VERB - -aɬi] ASPECT]

DERIVATION - INFLECTION

(421) scope: [[VERB - ASPECT] -aɬi]

NUCLEAR - CLAUSAL

My Tepehua consultants tell me that the suffix -*'aɬi* is not used so much; that instead people tend to use the adverb siempre borrowed from Spanish. My observations of text materials as well as everyday conversation agrees with their

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judgement. The interpretations given sentences with siempre rather than -*'ali* are identical to those presented above:

(422) siempre kuh-a

always wake.up-IMPF

'X always wakes up.'

(423) siempre kuh-ta

always wake.up-PF

'X is always awake.'

In conclusion, all three of these suffixes semantically function as adverbials with scope over the entire clause. We will return to this in 2.6.

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2.3.2.5 Return, ki:-

The prefix *ki:-* marks that the subject went somewhere (or came, if occurring with the locative suffix *-ciɬ*, 'here'), performed the action, and returned. In the Tlachichilco dialect it occurs productively only in the perfective aspect and realis mood (i.e., it always has a past factual reading):

(424) lah- ki:-st'a:-ɬ

3PLOBJ-RET-sell-PFV

'X went, sold them, and returned.'

(425) lak- t'a:- ki:-la-ɬ

3PLOBJ-COM-RET-do-PFV

'X went and returned with them.'

It can alternate order with *pu:-*, as in the following examples:

(426) 'anča ki:-pu:-saqna-ɬ

there RET-IP-get.firewood-PFV

'X went to get firewood and returned that way.'

(427) 'anča pu:-ki:-saqna-ɬ

there IP-RET-get.firewood-PFV

'X went to get firewood and returned that way.'

Perhaps its most frequent occurrence is with the general activity verb, *la-*. This is perhaps best analyzed as a special lexicalized verb stem for two reasons: (1) unlike the productive use of *ki:-*, it is attested in the imperfective aspect, and, (2) the body-part prefix *laq-* occurs 'outside' the prefix. (Body-part prefixes generally

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are inside all other prefixes, forming a complex verb stem.) Note the following examples:

(428) ki:la-ɬ laka: skwe:lah

go.return-PFV PREP school

'X went to the school (and came back again).'

(429) to'oštay-č ki:la-y-č

where-now go.return-IMPF-now

'Where did you go?'

(430) laq-ki:la-ɬ kin-kuku

eye-go.return-PFV 1POSS-uncle

'X went to see my uncle. (and returned)'

*ki:-laq-'a-ɬ

RET-eye-go-PFV

'X went to see Y and returned.'

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2.3.2.6 Immanent/intensive ti-

The aspectual prefix, *ti-*, only occurs with the imperfective aspect (present or past) or with the future tense (which is apparently historically derived from the irrealis mode of the imperfective; see 2.4.2). In an earlier study (Watters 1985) I glossed the prefix *ti-* as 'resumptive'. However, while it is commonly used in situations in which the activity referred to is 'resumed,' such a gloss is misleading at best.

The prefix *ti-* renders two kinds of interpretations, depending on the aspectual nature of the verb it occurs with. Here the aspectual distinction that is responsible for the two possible readings does not correspond straightforwardly to the Vendler-Dowty classification utilized in 2.1.1. Rather the distinction is largely pragmatic and holds between what I'll call 'gradient' and 'non-gradient' categories. The first group includes those verbs that specify a gradient process (e.g., 'grow') or a state that has varying degrees of realization (e.g., 'love'). The second includes those verbs that specify an event or a non-gradient activity (cf. Talmy 1985).

With the 'gradient' verbs, *ti-* gives a reading of 'more' or 'to keep on Xing more':

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(431) 'awi:nti lapana:ki ti-čiwi:ni-y 'ala:ti, ha:ntu

that person TI-talk-IMPF more NEG

laqaloqon čiwi:nti

get.tired(IMPF) speech

'That person is going on talking more; s/he doesn't get tired of talking.'

(432) k- ti- mu: -ni-ya:-n

1SUB-TI-serve-DAT-IMPF-2OBJ

'Should I serve you more?'

Other examples include the following:

(433) te-'ahin

TI-grow(IMPF)

'X continues to grow/ grows more.'

(434) ti-tantaqsta:-y

TI-ascend-IMPF

'X continues to go up/ goes further up.'

(435) k-te-'ačani-y

1SUB-TI-love-IMPF

'I like/love X more.'

(436) k-ti-mispa:-y

1SUB-TI-know-IMPF

'I know X better/more.'

With 'non-gradient' verbs, on the other hand, *ti-* marks immanence of the event or the impending onset of the activity:

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(437) t'i-p'aṡa:-y min-c'aɬ ?

TI-bathe-IMPF(2SUB) 2POSS-boy

'Are you about to bathe your son?'

(438) ti-wahin

TI-eat(IMPF)

'X is about to eat.'

(439) ti-p'uṡ-a

TI-pick-IMPF

'X is about to pick Y.'

(440) ti-miɬpa:-y

TI-sing-IMPF

'X is about to sing.'

Clearly, the two readings that are possible with *ti-* are not strictly due to inherent semantic classes of verbs. Rather it is the standard interpretation given these verbs including their 'standard pragmatics.' Thus, with some verbs, either interpretation is possible:

(441) ti-taqan'a:-y

TI-get.sick-IMPF

'X gets sicker.' or 'X is about to get sick.'

As might be expected, there are some forms in which it has acquired a purely idiosyncratic reading:

(442) k-ti-k'atsa:-y kin-kuṡtu

1SUB-TI-know-IMPF 1POSS-cornfield

'I'm taking care of my cornfield.'

The prefix *ti-* cannot occur in the perfective, only in the imperfective aspect (past or present) and future tense.

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Note that *ti-* is best classified as an aspect (or, perhaps better, a 'phase') rather than a tense, since it is given a reading within the scope of the tense it occurs with.

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2.4 Inflection

Inflectional categories in Tepehua include aspect, mood, tense, direction/location and person marking for both subject and object. The basic tense-aspect system is composed of a contrast between perfective and imperfective aspects and between past and unmarked tense. There is, in addition, a perfect aspect and a future tense.

The only morphological category on the verb that encodes a mood distinction is the irrealis prefix, *ka-*, which occurs in various distinct constructions. Accounting for the the pronominal forms that occur on the verb and their interaction is the topic of the 2.4.5.

2.4.1 Aspect

The basic distinction between imperfective and perfective aspect in Tepehua appears, at first inspection, to be a distinction between present and past tense. However, there is clear evidence that the basic distinction is one of aspect: the occurrence of the imperfective aspect with the past tense suffix; and, the co-occurrence of the irrealis prefix with the perfective aspect to form the subjunctive construction.

2.4.1.1 Perfective aspect

The perfective aspect in Tepehua is morphologically unmarked when subject is first or second plural. The marking for second person subject in the perfective has several forms which will be discussed in 2.4.5.

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With all other persons (i.e., first singular and third person singular and plural) the perfective is marked by the suffix *-ɬi*, as in the following examples:

(443) qasmak-l-i

hear -PFV

'X heard it'

(444) 'asmak-t'i

hear -2SGSUB(PFV)

'You heard it.'

(445) ha:ntu ka- laqc'i

NEG IRR- see-2SGSUB(PFV)

'You didn't see Y'

'Don't look at Y!'

'May you not see/look at Y.'

As will be noted from the glosses, when the perfective form of a verb occurs in isolation it is given a past ('punctiliar') reading. However, note that when it occurs with the irrealis prefix *ka-*, as in (445), it has no inherent time reference and may be rendered as an imperative or in a way similar to the Spanish subjunctive.

That the perfective aspect is most often used to denote an event in past time is not surprising. Compare Comrie's comment on the Indo-European perfective: 'the Perfective stem is, in isolation, usually interpreted as referring to the past' (1976:84). The reason for considering this category in Tepehua as one of perfective aspect rather than past tense is the fact that it need not refer to past time

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when the irrealis prefix is present. Only with verb forms otherwise unmarked for tense/aspect is it interpreted as past time.

2.4.1.2 Imperfective aspect

The imperfective aspect is marked by the suffix *-ya*. When a verb occurs in the imperfective aspect with no other indicator of time, it is interpreted as present tense. However, when the imperfective aspect occurs with the past tense prefix *'iṡ-*, it is interpreted as past imperfective:

(446) malaqaća:-y

send -IMPF

'X sends Y'

(447) 'iṡ-malaqaća:-y

PT-send -IMPF

'X was sending/used to send Y'

It is instructive here to note that in the same passage cited above, Comrie says of the imperfective in Indo-European:

> ...the Imperfective stem in isolation is usually interpreted as referring to the present, and to specify the combination of imperfective and past time meaning some additional marker is needed...(1976:84)

In Tepehua the situation is similar, a present tense interpretation given to a verb in the imperfective and an additional marker, *'iṡ-* 'past' required to mark past tense. Thus, the perfective, when otherwise unmarked, has a past interpretation and the imperfective a present interpretation.

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It should also be noted that in the narration of a story or event, when the context has established a past time setting, a verb in the imperfective receives the past interpretation from the context:

(448) yu: laqa-tawn yu:cha wa:mun saq ṡ -ya:l- tus ha:ntu
ART CLAS-one PRO only still PT-stand(IMPF) until NEG
c'uniy lakla-y
little move-IMPF
'The one (animal) just stood still so that it didn't move even a little.'

In this example both verbs are in the imperfective aspect and both receive a past interpretation even though only the first has the past tense prefix. Since the context has established the past time setting the second verb receives a past time interpretation even though it is unmarked for tense.

Finally, it should be noted that the imperfective suffix, *-ya*, displays some morphophonemic variation. Specifically, it is *-'a* following stops, *-a* following continuants (except after /h/ when it is optionally the full form, *-ya*), and Ø following a nasal:

(448') a. ɬi:stak-'a
care.for-IMPF

b. paṡ-a
bathe-IMPF

c. 'ah-ya ~ 'ah-a
dig-IMPF dig-IMPF

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d. laqc'in

see(IMPF)

The morphophonemic processes apply to the future tense suffix, *-ya:*, which is historically derived from the imperfective suffix (see below).

2.4.1.3 Perfect

There has been some disagreement on the cross-linguistic status of perfect as tense or aspect. Comrie treats it as an aspect though he notes that the

> difference between the perfect and the other aspects has led many linguists to doubt whether the perfect should be considered an aspect at all. (1976:52)[1]

For many purposes and in most frameworks, it might be a non-issue as to whether perfect were more closely aligned with the category of aspect or of tense. However, F&VV make an important distinction between tense and aspect based on their layered structure of the clause: tense is a peripheral operator whereas aspect is a nuclear operator.

Within such a framework there are (at least) two possible tests for classifying perfect along with the aspect markers or the tense markers in Tepehua. First, co-occurence restrictions; i.e., if perfect occurs freely with alternate tenses but may not occur with what are clearly aspectual categories, it would suggest that it is an aspect

[1] Chung and Timberlake 1985 similarly treat perfect along with aspect but give some more attention to its differences. These differences are great enough for Mourelatos to criticize Comrie for classifying perfect as an aspect, claiming that it is actually a phase. FVV does not propose a category, 'phase,' but if one were to be established, it would probably best be considered a nuclear operator as is aspect.

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itself. Second, in nuclear coordination we would expect the coordinated elements to share tense but be free in regard to aspect. I will show that these first two tests suggest that perfect should be treated as an aspect and not as a tense in Tepehua.

Perfect may occur with either the past tense prefix or the (unmarked) present tense. It may not, however, occur with perfective or imperfective aspect on the same verb stem:

(449) 'iš-ma:lani:-ta
PT-teach -PF
'X had taught Y'

(450) lani:-ta-ča
learn-PF-already
'X has already learned it'

(451) *laqc'in-ta-ɬ
see -PF-PFV

(452) *a-ɬi-ta
go-PFV-PF

These facts seem to suggest that perfect is an aspectual category and as such may not occur with other aspectual categories on the same verb stem. It may, however, occur with either past or present tense.[2]

[2] The evidence is somewhat weakened by two further facts. First, the perfect may not occur with the future tense:

(i) *ka-laqc?in-ta-ya:
IRR-see-PF-FUT

Second, the starred forms in (451) and (452) could be accounted for simply by the traditional notion of affix orders. The perfect

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Second, if perfect is considered an aspectual category it explains some otherwise peculiar data that involve what at least historically arose from a process of nuclear juncture. In Tepehua, the two verbs of arrival, *ċa'an* 'arrive there", and *ċin* 'arrive here' may occur with virtually any verb stem, stative or otherwise. They must occur in final position, may only occur in the perfective aspect and have a deictic function of signalling the location of the event or state:

(453) tapa:ca:-ya: -ċa: -ɬ
work -IMPF-arrive.there-PFV
'X works over there'

(454) ki: -tapa:ca: -ċi -ɬ
go/return-work-arrive.here-PFV
'X came and worked here and returned.'

(455) st'a:-ta:-ċa: -ɬ
sell -PF -arrive.there-PFV
'X has sold Y over there'

(456) ka- st'a:-ta:-ca'a -w
IRR-sell -PF -arrive.there-1PL

suffix, *-ta*, could be said to occur in the same order as the aspect suffixes and thus all three would be mutually exclusive; and, of course, it can occur with the past tense marker because the latter is a prefix. This might also account for its lack of occurrence with the future suffix--they could be argued to be of the same order. However, the very fact that the affix order classes are so arranged suggest that perfect is of the same category as perfective and imperfective. If it is of the same aspect order as the future, this wouldn't be strong evidence, since, as we saw above, the future suffix developed historically from the imperfective aspect suffix. The following paragraphs will suggest, in fact, that the perfect is not of the same affix order as the future: the perfect but not the future suffix may occur preceding the directional suffixes.

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'We will sell B over there'

Note that even though the verb of arrival appears in the perfective aspect, the verb to which it is joined may be in the imperfective aspect, perfective aspect (unmarked), or perfect: the future tense suffix may not occur. Instead, to denote future time, the prefix *ka-*, 'irrealis' occurs with the perfect suffix (this is the only construction in which the two may co-occur). If we assume that perfect is an aspect these facts follow. First, it alternates with the two other aspect categories as a suffix on the main verb. Second, since tense is a peripheral operator it may not occur within the scope of nuclear operators such as the aspect marker on the verb of arrival. Hence, the future tense suffix may not occur on the main verb preceding the verb of arrival. (The puzzle that still remains is why the perfect aspect is chosen rather than the imperfective to occur in the form marking future time in (d).) We conclude, then that perfect is an aspectual category in Tepehua.

This result is semantically reasonable since the perfect in Tepehua is clearly more than just a 'relative tense': it has a striking effect on the aspectual interpretation of the achievement verbs. As demonstrated in the discussion of achievement verbs in 2.1.1, when they occur with the perfect they receive a 'stative' interpretation, the perfect suffix having the effect of 'erasing' the logical operator BECOME. This is consistent

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with the conclusion that perfect is primarily an aspectual category in Tepehua rather than a tense.

In conclusion, the morphosyntactic facts regarding the position and distribution of the perfect suffix, *-ta*, seen within the framework of RRG require classifying it with the aspectual suffixes. This agrees with the semantic effect of the suffix on the logical structure of achievement verbs.

2.4.1.4 Progressive

As noted in 2.1.1, the progressive in Tepehua is most commonly marked by the verb *t'ahun* plus an infinitive; i.e., *t'ahun*, besides its independent function as a stative verb is also occurs in construction with an infinitive to mark progressive aspect:

(457) t'ahun čiwi:n

be(IMPF) talk

'X is talking.'

(458) t'ahun 'u:-na: 'ała:šuš

be(IMPF) eat-INF orange

'X is eating an orange.'

The primary function of the progressive in Tepehua is apparently to explicitly mark an event as 'on-going.' More specifically, we could adopt Bennet and Partee's definition of the progressive as cited by Dowty (1979:145):

> [PROG] is true at I iff there exists an interval I' such that I I', I is not a final subinterval of I', and is true at I'.

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That is, it refers to a nonfinal interval of time set within a larger process interval.[3]

Note that stative verbs are necessarily interpreted as such an interval when occurring in the imperfective. Achievement, activity, and accomplishment verbs are all potentially ambiguous in the imperfective aspect between denoting an interval (an 'on-going' reading) and a noninterval interpretation (an iterative/habitual reading). This, of course, parallels the situation in Spanish (see Stockwell, Bowen and Martin 1965; Bull 1968:79ff; and Comrie 1976):

(459) viene tu hermano

come(PRES) your brother

'Your brother is coming,' or 'Your brother comes.'

A construction that is apparently synonomous to the progressive displayed above is one in which t'ahun occurs as the modifying verb in a left-headed verb compound. Though it occurs fairly frequently in the Hueheutla dialect (D. Herzog, p.c.), the *t'ahun* + infinitive construction is much more common in the Tlachichilco dialect. When the suffixed form occurs the verb must be in the imperfective:

(460) ta-tapaca:-t'awn-ċoqo-y

3SUB,PL-work-be-REP-IMPF

'They are working again.'

[3] Actually, the semantics of progressive in Tepehua would be subject to the same refinements Dowty proposes for Bennett and Partee's definition for English. Thus the past progressive would require some notion of 'possible worlds' to make the truth conditions work out. See Dowty 1979:145-173.

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The parallel construction in the perfective requires the verb *cuk'u-* 'begin, be born' to be suffixed to the verb (cf., the paired use of *tʔanur* and *cukʔu-* in the discussion of the possession statives in chapter 2):

(461) tapaca:-cuk'u-l

work-begin-PFV

'X began working.'

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2.4.2 Tense

There is a three-way tense distinction in Tepehua: future tense marked by *-ya:*, past tense marked by *'iṡ-*, and present tense (unmarked). As will be seen in the following discussion, there is evidence that this three-way distinction may have grown out of a simple two-way distinction of past vs. non-past.

2.4.2.1 Future tense, -ya:

There are two distinct future tenses in Tepehua. The standard, unmarked form (in the Praguean sense) of the future is marked by the suffix *-ya:*. The other less frequently occurring future is best labelled the 'indefinite future' and is marked by *-ya:nta*. I will discuss the standard future first.

For all subjects other than first person singular the future tense suffix must co-occur with the irrealis prefix *ka-* (except when *ka-* is supplanted by the 1obj prefix, *kin-*, which is of the same affix order). Thus,

(462) ka- min -a:
IRR-come-FUT
'X will come'

(463) ka- tapa:ca:-ya:
IRR-work -FUT
'X will work'

(464) ka- laqc'in-a:
IRR-see -FUT
'X will see Y'

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(465) ki-štaq-ni-ya:

1OBJ-give-DAT-FUT

'X will give it to me.'

(466) ɬiy k-'an-a: (or ka-hk-'an-a:) lakl-itamau

tomorrow 1SUB-go-FUT (IRR-1SUB-go-FUT) market

'Tomorrow I will go to market.'

(467) tawa:nanča ki-ɬi:t'an-č'o'o-ye:-'i

when 1OBJ-bring-REP-FUT-2SUB,FUT

'When will you bring it back?'

(468) to'oštayča ka-t'ap'asa-ya-p'i-t'ik

where IRR-pass-FUT-2SUB,FUT-2PLSUB

'Where will you(pl) pass by?'

The future suffix is clearly etymologically related to the imperfective. Unlike Tepehua, Totonac only has the imperfective suffix, marking future by the prefix *na-*. The basic forms of the two suffixes in Tepehua are phonetically very similar: *-ya:*, 'future'; *-ya*, 'imperfective'. Also, they undergo a parallel phonological processes. First, the short vowel of the imperfective is lengthened before suffixes though not before clitics. (This is also true of the short vowel of the perfect; see Appendix I.)

(469) štaq-ni-ya:-n

give-DAT-FUT-2OBJ (preceding suffix)

'X gives Y to you./ X gives you to Y.'

(470) štaq-ni-y=ča

give-DAT-FUT-already (preceding clitic)

'X gives Y to Z.'

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This rule lengthening the vowel of this suffix is true throughout the dialects of both Totonac and Tepehua (as far as I can determine from my sources). However, unlike Totonac, Tepehua has ia future tense suffix, *-ya:*; its long vowel is shortened by a when followed by a suffix (though not when followed by a clitic):

(471) ka-ṡtaq-ni-ya:=ca̧

IRR-give-DAT-FUT=already (preceding clitic)

'A will give B to C.'

(472) ka-ṡtaq-ni-ya-w

IRR-give-DAT-FUT-1PL (preceding suffix)

'We (incl.) will give B to C.'

Thus, in Tepehua, there is a 'flip-flop' in the vowel length of the future and imperfective suffixes when preceding another suffix[1]:

(473) Future: ya: --> ya

Imperfective: ya --> ya:

Though it's pretty clear the future and imperfective suffixes are historically related, more evidence is required to know what original pattern was. There is some evidence, however, that the imperfective aspect suffix was the base form from which the future tense suffix developed.

First, as already noted, this is the pattern currently found in Totonac, where the same suffix, *-ya*, occurs in both the imperfective and the future, the latter distinguished by the prefix *na-* (the lengthening of the imperfective suffix

[1] The perfect aspect suffix, *-ta*, is also lengthened preceding a suffix. See Appendix.

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before suffixes also occurs in Totonac; cf. Reid and Bishop 1974:391,2).

Second, it is generally agreed that morphological aspect is cross-linguistically much more ubiquitous than morphological tense categories (many languages having aspect but no tense). In terms of the layered structure of the clause presented by Foley and Van Valin this is a reflection of

> the basic tendency in diachronic developments ... for more- inner operators to be re-analyzed as operators over outer layers. (1984:216).

Finally, reconstructing an earlier form in which the future was marked by the irrealis prefix and imperfective suffix would not be at all unusual. In fact, it exactly matches the Tagalog facts discussed by Chung and Timberlake:

> First, non-actual modality [irrealis]...appears to induce perfective aspect more than does actual modality. For example, Tagalog distinguisthes perfective vs. imperfective aspect and realis vs. irrealis mood (Schachter and Otanes 1972). The irrealis imperfective is used for ordinary futre events, while the irrealis perfective is used for imperatives...(1985:256)

The 'indefinite future' is marked by the suffix -*ya:nta*. Compare the (a) and (b) forms below:

(474) a. tawn hulčan aniy ka-k-tapa:ca:-ya:nta

one day here IRR-1SUB-work-IND.FUT

'Some (indefinite) day I'll work here.'

b. tawn hulčan aniy ka-k-tapa:ca:-ya:

one day here IRR-1SUB-work-FUT

'One day (date known or unknown) I'll work here.'

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Here it can be seen that while the standard future suffix is not necessarily interpreted as referring to either a definite or an indefinite time in the future, the indefinite occurs only when the speaker is specifying that time the event will take place is unknown.

Finally, it should be noted that though the future tense construction typically marks future in relation to the time of speaking, it also functions to mark future in relation to some time established in the past. Note the following example:

(475) yu: ṡanati wa: taṡ'oq-ɬi-ča ni por
ART woman FOC decide-PFV-alreaddy ART POR
ka-če'ewa:-nan-a:-ča ni is-as'at'a
IRR-give.away-AP-FUT-already ART 3POSS-child
'The women had decided that she would give her child away.'

In this excerpt from a story, the 'giving away' could be in the distant past in relation to the time of speaking, but is future to the time established at that point in the story.

2.4.2.2 Past tense

The past tense is generally marked by the prefix *'iṡ-* ~ *ṡ-*. At times the form used is *ṡa-*. The latter form is often phonologically motivated, involving epenthesis of [a] when the prefix is followed by a consonant cluster (which frequently occurs in first person forms). In fact, *ṡa-* is the standard form for first person subject in the Huehuetla dialect (Herzog 1974). In the Tlachichilco

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dialect, the epenthetic [a] is frequently absent though the following forms are fully acceptable:

(476) ṡa- k- tapaca:-y

PT-1SUB-work-IMPF

'I was working.'

(477) ṡa- k- pa:stak-?a

PT-1SUB-think-IMPF

'I was thinking.'

However, the *ṡa-* form can appear in other than first person, as well. Compare the following forms:

(478) a. ṡa-ċ'an k'ispa

PT-plant/sow corn

'X planted corn.'

b. ix-ċ'an k'ispa

PT-plant/sow corn

'X planted corn.'

The (a) form apparently refers to a recent past, the (b) form referring to either a recent or distant past. That is, the form, *ṡa-* is the marked form, marking 'recent past,' *'iṡ* ~ *ṡ* being the unmarked form for past tense.

The past tense prefix may occur with any of the aspectual suffixes: the imperfective, perfective, or perfect. When it occurs with the imperfective the verb is interpreted as past imperfective (similar to the Spanish 'copreterito"):

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(479) iṡ-maqni:-y p'aṡni-n

PT-kill -IMPF pigs-PL

'X used to kill/ was killing pigs'

(480) kin-tiṡ yu:ča 'iṡ-'an ṡkapu-n

1POSS-brother-in-law PRO PT-go(IMPF) catch.shrimp-INF

pu:c?i:sta la:?aṡka:n

night river

'My brother-in-law used to catch shrimp in the river at night.'

When it occurs with the perfective aspect it is given a past contra-factual reading:

(481) 'iṡ-maqni:-ɬ p'aṡni

PT-kill -PFV pig

'X would have killed a pig.'

(482) ha:ntu 'i-st'a:-l 'is-k'ispa

NEG PT-sell-PFV 3POSS-corn

'X shouldn't have sold his corn.'

To account for the translations above, it simply needs to be noted that the past tense prefix may not occur with the irrealis prefix *ka-* (which would be expected to occur in (b). above) though it may immediately precede the first person object marker, *kin-*. As noted above, *ka-* and *kin-* may not co-occur.

These facts suggest the relative ordering of these three prefixes is the following:

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(483)

ka-	
'iṡ-	kin-

When the past tense prefix occurs on a verb with the perfect suffix, the interpretation is the expected composition of the two. Thus with achievement verbs (as in b, below), the form is given a past stative interpretation and with activities (as in a, below) it is given an interpretation similar to the past perfect of European languages; i.e., signifying a time prior to the past time reference:

(484) a. łi:-kasniy 'iṡ-hun-i:ta

cold PT-become-PF

'It was cold.'

b. 'is-łaqc'in-ta i-ṡo:y

PT-see-PF 3POSS-dog

'He had seen his dog.'

To give a 'prior-to-past' interpretation with an achievement verb such as in (484a), the clitic -*ča* is required (see2.6).

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2.4.3 Irrealis mood

The semantic category irrealis is encoded in Tepehua by the prefix *ka-*. This is an 'outermost' prefix, preceding the first person subject prefix and always occurring in initial position in the verb. As with *kin-*, '1 object,' and *'iś-*, 'past tense,' it can never be stressed.[1]

In the Huehuetla dialect the irrealis prefix occurs in the form *ka-* only in third person and first plural inclusive forms. Before *k-*, '1 subject,' and in second person forms, it is *'a-*. In the Tlachichilco and Pisa Flores dialects the form remains *ka-* throughout the paradigm.

Throughout Totonac and Tepehua, *ka-* occurs with perfective aspect to render a form that is usually translated by the Spanish subjunctive, as in (485), below. (The second person forms of the 'subjunctive' are the true imperatives.) In Tepehua it also occurs with the future tense suffix (historically derived from the imperfective: see 2.4.2.1) to give the future tense form. In the Totonac, *ka-* occurs only in the 'subjunctive' constructions, the future being marked with the prefix *na-* rather than with *ka-* In the following Tepehua examples the irrealis prefix

[1] This is true even in those cases when the perfective suffix would be expected to cause the stress to shift back onto *ka-*. In fact, this is the primary argument for including both *ka-* and *kin-* in the 'clitic group' in my summary of the phonology in the Appendix. However, by the standard grammatical criteria for distinguishing clitics from affixes, these can be argued to be prefixes, largely on the basis of selectivity: *ka-* only occurs on verbs, and *kin-* is inside the past tense prefix, *'iś-*.

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occurs in the 'subjunctive' construction as well as in the future tense.

(485) ka-laqa-loqon-a: ka-laqa-loqo-ɬ

IRR-body-tire-FUT IRR-body-tire-PFV

'X will get tired.' 'May X get tired.'

(486) ka-p'aṡ-'e:-'i ka-p'aṡ-t'i

IRR-bathe-FUT-2SUB IRR-bathe-2SUB(PFV)

'You will bathe.' 'Take a bath!'

There is some difference between the Tlachichilco and Hueheutla dialects in the use of the 'subjunctive' construction, though for the most part it is the same in both dialects. The following is a list of the three contexts in which the 'subjunctive' construction occurs in the Tlachichilco dialect:

(487) a. complement of non-factive verb (expressing belief, desire, etc.):

ɬi:la-y ka-min-ḉoqo-ɬ 'is-c'aɬ

believe(IMPF) IRR-come-RET-PFV 3POSS-boy

'X thinks his/her son will come / has come back.'

b. as main verb expressing desire (in second person used as imperative, in first plural used as hortatory):

ka-'a-w la:'a:ṡka:n

IRR-go-1PL river

'Let's go to the river.'

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c. following ha:ntu, 'no,' to express the negative of the simple past (i.e., referring to an event that didn't occur in the past):

ha:ntu ka-ɬtata-ɬ

NEG IRR-sleep-PFV

'X didn't sleep' (or, as in (b), 'May X not sleep!')

In the Huehuetla dialect, the 'subjunctive' construction is used only in the contexts (a) and (b); the past negative being marked by *ha:ntu* followed by the past imperfective:

(488) ha:ntu iṡ-min

NEG PT-come(IMPF)

'X didn't come.'

The form above is also grammatical in the Tlachichilco dialect but specifically has an imperfective reading, e.g., 'X wasn't coming,' as it contrasts with the less marked form below:

(489) ha:ntu ka-mi-l

NEG IRR-come-PFV

'X didn't come.'

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2.4.4 Direction/location, -čin, -ča'an

In this section I will briefly summarize the facts regarding the form and usage of the inflectional suffixes marking location, *-čin*, 'proximal,' and -*ča*'an, 'distal.' The details regarding their constructions with aspect and tense suffixes are discussed in 2.4.1.3.

Tepehua has four primary verbs referring to linear motion:

(490)a. 'an 'go' (distal)

b. min 'come' (proximal)

c. ča'an 'arrive there' (distal)

d. čin 'arrive here' (proximal)

Following Fillmore 1973, the first verb will be described as source-oriented, and the last three as goal-oriented. To account for when one uses these various forms there needs to be some notion of what counts as 'here' and 'there', what counts as 'coming' and 'going.' Spanish seems rather strict in this regard, generally requiring a form of *ir* 'to go' if the linear motion is away from the location of the speech act. English, of course, demonstrates a considerably greater degree of freedom in this regard, allowing 'come' to be used, for example, even if neither the speaker nor the addressee are at the designated location at the time of speaking (see Fillmore 1973 for details). Tepehua falls somewhere between these two. In this section I will briefly summarize the facts regarding the usage of these verbs and then turn to the usage of the directional/locational

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suffixes, *-ċa'an* and *-ċin*, which are obviously related to the forms in (490c) and (d).

In narratives the speaker generally tells the story from the perspective of a particular location, which I will call the base. The base can change within the narrative, but it can usually be determined by the usage of *min*, 'come' and *'an*, 'go': the former is used for motion toward the base and the latter for motion away from the base.

In everyday conversation, the usage of these two verbs is more closely tied to the location of the speech act. Thus, if I meet you at market or on the road to or from market the following is an acceptable question:

(491) ɬiy kin-t'a:-t'an-e-'i lakɬi:tamau

tomorrow 1OBJ-COM-come-FUT-2SUB market

'Will you come with me to market tomorrow?'

However, (491) is not acceptable if I ask you at (your or my) home; then a form of *'an* 'go' must be used. In other words, to use the verb *min*, 'come,' in non-narrative situations, the location of speaking must be at the designated location or somewhere along the route that leads to the designated location.

The designated location in such cases can be rather broad, according to the context. Thus if someone from the Tepehua area has gone to the United States and 'come back' to Mexico City, both of the following forms are acceptable:

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(492) min-čoqo-ɬ

come-RET-PFV

'X came back.'

(493) čin-čoqo-ɬ

arrive.here-RET-PFV

'X returned.'

On the other hand, the speaker could refer to the same situation with *'an*, 'go,' or *ča'an*, 'arrive there,' though the perspective would be different: instead of reporting the motion as being directed toward the (general) location of speaking, the motion is presented simply as from one location to another, both distal.

The suffixes, *čin*, 'arrive here,' and *ča'an*, 'arrive there,' are more restrictive in their usage than are the full verb stems in two ways. First, the designated location is usually more specific. That is, in the same scenario as that above, to refer to one who is working again in Mexico City after having gone to the U.S., the distal suffix would be used:

(494) tapa:ca:-čoqo-ča:-ɬ

work-REP-DIST-PFV

'X is working there again.'

Secondly, the use of the inflectional forms *-čin* and *ča'an*, unlike the main motion verbs discussed above, is fully determined by the location of the speech act, more specifically by the location of the speaker. Thus, even when referring to arrival at the 'base' in a narrative, the

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distal *-ċa'an* must be used in place of the proximal *-ċin*. Recall that the main verb forms can be used to mark 'proximal' or 'distal' from some 'base' in the story that differs from the location of speaking. This combination of facts is responsible for the following frequently used form in narratives:

(495) ċin-ċa:-l

arrive.here-DIST-PFV

'X arrived (at 'base') there.'

It also helps to account for (though does not predict) the following fact: while (a), below, is a frequent form, (b) is totally unacceptable:

(496) a. ċa:n-ċa:-l

arrive.there-DIST-PFV

'X arrived (right) there.'

b. *ċin-ċi-l

arrive.here-PROX-PFV

'X arrived (right) here.'

In (a) the main verb signifies that the subject arrived at some distal, general location; the suffix marks that the location is a specific one that has been established in the discourse or is known to both the speaker and addressee. In (b) the location is already one that is established by the the main verb and cannot be further specified by the locative suffix.

These locative suffixes in Tepehua consistently refer to the location of the activity or state at the time of

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reference. That is, if the reference time is past, it refers to the location at that time; if it is present, it refers to the location of the activity or state at the time of speaking. This is perhaps obviously true when the suffixes occur with verbs that don't involve linear motion:

(497) sgoɬi-ča:-ɬ

whistle-DIST-PFV

'X whistled there.'

(498) k'uč'u-kan-a:-ča:-ɬ

heal-PASS-IMPF-DIST-PFV

'X is healed there.'

However, this is also true when it occurs with verbs of linear motion. Thus, it does not necessarily refer to the ultimate goal, but simply the location of the theme at the time of reference:

(499) min-ta:-ča:-ɬ

come-PF-DIST-PFV

'X is coming there.' (or 'X has come to there.')

(500) 'an-ta:-ča:-ɬ

go-PF-DIST-PFV

'X is going there.'

However, there is at least one verb involving linear motion in which the Tlachichilco and Hueheutla dialects present different readings with the locative suffixes.

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(501) ma:laqača:-či-ɬ

send-PROX-PFV

HT: 'X sent Y (to) here.'

TT: '(from) here, X sent Y.'

We can represent the LS of *ma:laqača:-* 'to send,' in the following way:

(502) [DO (x,[...])] CAUSE [[BECOME NOT be.at'(y,z)] &

[BECOME be.at'(y,q)]]

In the Tlachichilco dialect the proximal locative suffix is construed with the causing activity; in Huehuetla it is construed with the location of the resulting state.

Finally, it should be noted here that the four verbs discussed at the beginning of this section as well as the locative suffixes have irregular forms in second person. First, consider the second person forms of these verbs:

(503) *min* 'come' *'an* 'go'

2nd pers: *t'an* *p'in*

čin 'arrive.here' *ča'an* 'arrive.there'

2nd pers: *č'ip'in* *č'it'an*

These suppletive stems for second person (singular or plural) also occur in the many complex verb stems that contain one of these verbs:

(504) 3rd pers: ɬa:ka:pu:'an 'X believes Y.'

2nd pers: ɬa:ka:pu:p'in 'You believe Y.'

(505) 3rd pers: 'akamin 'X smells (bad).'

2nd pers: 'akat'an 'You smell (bad).'

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(506) 3rd pers: lakačin 'X sees this far.'

2nd pers: laka:čit'an 'You see this far.'

This is also the case in Totonac (though some of the details of form differ) and was discussed by Aschmann and Wonderly 1952 to some extent. They noted the similarity between the second person form for 'go' and the basic stem for 'come' and between the second person form for 'come' and the basic stem for 'go'. (I should point out that this similarity is more striking in Totonac which has several morphemes in which m --> p' in second person -- thus matching the relation between *min*, 'come,' and *p'in*, 'you go.') They suggested that it may have arisen historically from a different mapping or perspective in the use of motion verbs with when the addresse is the subject, an intriguing suggestion but one that calls for further research to work out the details.

The important point here is that regarding the irregularity found with the locative suffixes when the addressee is the subject. In second person forms, the distinction between 'distal' and 'proximal' with the locative suffixes is completely neutralized: in both cases the form required is *-čiy*. This form is by itself very unusual: the only time second person forms end in *y* is in the imperfective aspect. Yet if this were truly imperfective aspect we would expect *čin* (see 2.4.5 and the appendix). Before moving on to an account of semantic issues involved, I will present an account of this unusual form.

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As was shown in 2.4.1, these locative suffixes behave as verbs that are in nuclear juncture with the main verb. The main verb carries the aspect and mood distinctions from which the various tense readings can be made. The suffixed verb, however, always occurs in the perfective aspect. As will be noted in 2.4.5, the second singular form in the perfective regularly requires the dropping of final *n*, as in the following example:

```
(507)       C --> Ø
            ¦
     laqc'in --> Ø     laqc'i
```

'You saw Y.'

It appears that what makes the second person form of the locative suffix so unusual is the fact that it only partially conforms to the above rule. I suggest the following is what is going on:

```
(508)      VC                V C
           ¦¦        ==>     ¦/
        -ċin --> 0        -ċi  (i.e., ċiy)
```

Returning to morphosyntax, the important point is that noted above: in second person forms, the distinction between 'distal' and 'proximal' is neutralized and the form that occurs in this context of neutralization is the 'proximal' form, *-ċin*. Note that a case can be made for the 'distal' form to be considered the unmarked member of the pair in other persons: the usage of *-ċin* is much more restricted than that of *-ċa'an*. Yet, the unmarked (in fact the only) form in second person is the one that usually marks 'proximal.'

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The pragmatic grounding of events in Tepehua regularly takes the speaker rather than the addressee as the 'pivot' (Fillmore 1982b) or point of orientation. Thus the following is the form the speaker yells to the addressee to express the speaker's motion to the location of the addressee (as well as to any other established location):

(509) ka-hk-an-ta:-ča:-l

IRR-1SUB-go-PF-DIST-PFV

'I'll go over there.'

Yet, the facts discussed above strongly suggest the possibility that at least historically a case can be made for ranking second person above first and third for establishing the point of orientation.

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2.4.5 Person marking

Silverstein 1976 develops a hierarchy of "inherent lexical content" of noun phrases, providing a cross-linguistic account of split ergativity. At the top of the proposed hierarchy a fundamental distinction is made between participants in the speech situation and non-participants, i.e. between first and second person, the speaker and hearer, and the third person referents. Though Tepehua has thoroughly nominative-accusative morphosyntax, its system of person marking on the verb also displays a split in person marking between the participants and non-participants in the speech situation, as I will attempt to demonstrate.

In this section I will attempt to account for the pronominal forms that occur on the verb in Tepehua. The solution I'll offer will also demonstrate some of the morphosyntactic effects of the pragmatic distinction discussed by Silverstein between participants and nonparticipants in the speech situation. More specifically, I will argue that the pronominal forms for first and second persons are determined at the syntactic level, the level at which the subject is determined; forms for third person, on the other hand, are determined at the semantic level where actor and undergoer are distinguished. I will try to account not only for the paradigms of person marking for the standard forms but also the paradigms that occur in the passive and the inverse constructions.

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2.4.5.1 Standard person marking

Tepehua verbs are marked for person and number of both the subject and the object. There are eight basic morphemes that are used to mark the possible person combinations for subject-object interactions. In the following I will present an account which specifies the features of person and number associated with each affix. The goal here is simple: to provide an account such that the interpretation of each form in isolation or when co-occurring with other affixes can be accounted for by the features assigned to that affix, unifed with the features of the co-occurring affixes. I will use two (equipollent) features for person (+/-1, and +/-2) and one (equipollent) feature for number (+/- plural). I will mark the features for subject inside brackets with a preceding s (s[ ]) and those for the object inside brackets with a preceding o (o[ ]).

If [+/-pl] occurs outside the brackets for person, it signifies it may unify with either or both the subject and object. (That is, there are forms which, in effect, simply mark, 'one of the arguments is plural'; the plural feature unifies with the person features of whatever argument it is compatible with.) If the [+/-pl] is listed within the marking for subject or object, it is obligatorily unified with that argument. (Such an affix specifies not only 'plurality' but also which argument is plural.)

To give an example, -*w* has the feature structure

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s[+1,+2,[+pl]]; lak- has the feature structure o[-1,-2,[+pl]]. Hence, a form such as the following has the (unified) feature structure [s[+1,+2,[+pl]]o[[-1,-2,[+pl]]]:

(510) lak-hun-i-w

3PLOBJ-tell-DAT-1PLSUB

'We (incl.) told them.'

Finally, note that two forms involving second person subject also specify tense/aspect: *-t'i*, '2 sing. subject, perfective,' and *-p'i*, '2 subject, future.'[1] We then have the following set of forms and their associated feature structures:

(511) *k-* first person (exclusive) subject

s[+1,-2]

kin- first person object

s[-1]o[+1]

-'- second person sing. subject

s[-1,+2,[-pl]]

-t'i second person sing. subject, perfective

s[-1,+2,[-pl]] [+pfv]

-(p)'i second person subject, future

s[-1,+2] [+fut]

-n second person object

o[+2]

[1] Actually, second singular subject in the perfective aspect is more complex than this: (1) the suffix *-t'i* only occurs following a non-nasal consonant or a long vowel; (2) immediately following the dative suffix *-ni*, second singular subject is marked by a form identical to the second person object suffix, *-n*; (3) elsewhere it is marked by loss of the final sonorant of the verb stem (unless the stem has only one syllable, in which case it is marked by the suffix *-t'i*). See 2.4.5.4

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-t'ik second person plural subject

s[-1,+2,[+pl]]

-w first and second person subject (i.e. first plural inclusive, but see below);

s[+1,+2,[+pl]]

ta- third person subject, plural (see below)

s[-1,-2], [+pl]

lak- third person plural object

o[-1,-2,[+pl]]

Besides the morphemes listed above that mark person and number, there is a recripocal marker, *la:-*, which rearranges the feature structure in the following manner:

(512) s[{x,y} [+pl]] --> ¦[s[x]o[y]] [+pl] ¦
¦[s[y]o[x]] ¦

where {x,y} refer to two distinct proper subsets of the set referred to by the subject on the left-side of the arrow.

There is a general constraint that the set referred to by the subject cannot be the same set referred to by the object (except in the passive-reflexive construction). Finally, it must be specified that the following order applies:

(513) i. unify features for person and apply reciprocal in an order that follows their linear (morphological) ordering;

ii. unify features for number

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The standard subject forms used when the verb is intransitive or when the object is unmarked (i.e., third person singular) are as follows:

(514) SUBJECT

		sg.	pl.
1		k-	k- -w (excl.)
			-w (incl.)
2	pfv:	C'-t'i	C'-t'ik
	impf:	C'	
	fut:	C'-(p)'i	C'-p'i:t'ik
3			ta-

The forms above can all involve features that unify without contradiction except one: the first person plural exclusive form, *k-...-w*. The suffix specifies both first and second person subject while the prefix explicitly excludes second person from subject. Here the feature specification of the prefix overrides that of the suffix. In fact, it will be seen that the feature specifications of both first person subject, *k-* and first person object. *kin-* override conflicting features. This is the one instance in which the unification of features for person is not monotonic.

However, it isn't unusual that it should be the first person prefixes in particular that do so: there is evidence that, in a derivational sense, they are the last person-marking affixes to apply. Recall from the charts in 2.3 that they occur in the same affix order, in (near) verb-initial position. As will be seen in chapter 3, *k-* is the

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only person marker that is not restricted to verbs, occurring on predicate nouns and adjectives, thus manifesting a characteristic typically found with clitics rather than affixes. Likewise, *kin-* is the only person marker that falls outside the domain of stress assignment in the verb (assigned to the 'clitic group' component in the phonology; see Appendix). In other words, the unification of features for person is monotonic for the greater part of the verb's inflection, certain features being overridden only at the last level by the first person prefixes.

The following are the standard forms for the object when the subject is unmarked (i.e., third person singular):

(515) OBJECT

	sg.	pl.
1	kin-	kin-ta- -n
2	-n	ta- -n
3		lak-

Note that the first person plural exclusive-inclusive distinction only applies to subject.

The person marking system for forms in which there are two core arguments neither of which is third person singular shows the interaction of the eight affixes to a fuller extent:

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(516) Encoding of person interaction

Object:	1sg.	2sg	1pl.	2pl.	3sg.	3pl.
Subject:						
1sg.	---	k--n	---	kla:--w	k-	klak-
2sg.	kin-'-	---	kila:--w	---	-'-	lak-'-
1pl.excl	--	kla:--w	kla:--w	kla:--w	k--w	klak--w
1pl.incl	---	---	la:--w	---	--w	lak--w
2pl.	kila:--w	---	kila:--w	la:--t'ik	--t'ik	lak--t'ik
3sg.	kin-	--n	kinta--n	ta--n	---	---
3pl.	kinta-	ta--n	kinta--n	ta--n	---	tala:--
3'sg.					Ø	lak--
3'pl.					ta-	ta-/lak-

To demonstrate how the features specifications listed in (511) account for the occurring forms, let's consider some of the more challenging cases. Note that one of the

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following forms is three ways amibiguous, the other four ways ambiguous:

(517) ki-la:-'aqtayhu:-ya:-w

1OBJ-REC-help-IMPF-1PLSUB

'You(sg) help us.' or

'You(pl) help us.' or

'You(pl) help me.'

(518) k-la:-'aqtayhu:-ya:-w

1SUB-REC-help-IMPF-1PLSUB

'I help you(pl).'

'We help you(pl).'

'We help you(sg).'

'We(excl.) help each other.'

First, note that, as in (511), the suffix *-w* gives us s[+1,+2,[+pl]]. In both forms we have the reciprocal prefix, *la:-*, which according to (512), restructures the feature specification, giving

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(519) ¦[s[+1]o[+2]] [+pl] ¦.[2]

¦[s[+2]o[+1]] ¦

¦[s[+1]o[+1']] ¦

¦[s[+2]o[+2']] ¦

If we were to stop here, we would have the form *la:-'aqtayhu:-ya:-w*, 'We(incl) help each other,' which is the correct form for reciprocal first person inclusive. Now with the first person forms we come to features that override conflicting specifications. Applying the first person object prefix in (511), the features s[-1]o[+1] override the first person subject features in the above forms, giving

¦[s[+2]o[+1]] [+pl]¦. As it is this would give a rather

¦[s[+2]o[+2']] ¦

strange reading and presents something of a problem. It would mark that the addressee is acting on the object and

[2] The last two lines of this feature structure require some explanation. It's important to keep in mind that plurality involving first and second person is different from that involving third person referents. Silverstein makes note of this:

> The implementation of 'number' distinctions for these indexical categories -- the [+plural] feature, for example, usually indicating that there are specifically 'more than one' of the object referred to -- is semantically incorrect, as Benveniste points out, but one of those economies of structure universally found in languages. Indexical 'plurals' derive from summing individuals in the speech situation, with or without other referents. The plurality is thus not of identical referents, but sucha derived, counted- up plurality that masquerades as true plural.(1976:166)

However, in such forms there may be a true plurality of first person or of second person. In just such instances, *la:-* could specify reciprocal action within one of these sets. That is, the application of the reciprocal may specify distinct subsets of the subject acting on one another. In 'first person plural' this may mean, besides first and second interacting, subsets of first and/or subsets of second interacting. Here instances of subsets of first or second person acting on their complements are abbreviated with the symbols 1 and 2 and their complements, 1' and 2'.

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also subsets within the set of the addressee are acting on each other. At this ipoint we will simply have to stipulate that the occurrence of a separate form for the latter (second plural reflexive), has the effect of blocking such a reading. This then gives us [[s[+2]o[+1]] [+pl]]. The feature for number can now unify with either the subject or object or both, producing the three-way amibiguity noted above.

Now consider the form in (518). The steps up to the application of the prefix are the same, giving us once again the feature set ¦[s[+1]o[+2]] [+pl] ¦. The prefix, k-

¦[s[+2]o[+1]] ¦

¦[s[+1]o[+1']] ¦

¦[s[+2]o[+2']] ¦

overrides the feature sets with second person subject. yielding ¦[s[+1]o[+2]] [+pl] ¦. Unifying [+pl] with any

¦[s[+1]o[+1']] ¦

or all of the arguments then gives us the four-way ambiguity noted above.

Now consider the following forms:

(520) ta-'aqtayhu:-ya:-n [s[-1,-2]o[+2] [+pl]]

3SUB,PL-help-IMPF-2OBJ

'They help you(sg).' or [s[-1,-2]+pl][o[+2]]

'They help you(pl).' or [s[-1,-2]+pl][o[+2][+pl]]

'S/he helps you(pl).' [s[-1,-2]][o[+2][+pl]]

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(521) kin-ta-'aqtayhu:-ya:-n [s[-1,-2]o[+1,+2] [+pl]]

1OBJ-3SUB,PL-help-IMPF-2OBJ

'They help us.' or [s[-1,-2]+pl][o[+1,+2][+pl]]

'S/he helps us.' [s[-1,-2]][o[+1,+2] [+pl]]

In the first example, the suffix, *-n* gives us the feature o[+2]. The prefix, *ta-* gives us the features s[-1,-2], [+pl]. Unifying these, we have [s[-1,-2]o[+2] [+pl]]. The feature [+pl] can now unify with either the subject or the object or both, yielding the three-way ambiguity above.

In the second example, we arrive at the same intermediate feature set via the same affixes: [s[-1,-2]o[+2] [+pl]]. Now we add on the feature set for *kin-*, s[-1]o[+1]. Unifying these, we have [s[-1,-2]o[+2]o[+1] [+pl]] or, equivalently, [s[-1,-2]o[+1,+2] [+pl]]. Unifying [+pl] with any or all of the arguments gives us the forms above. There is one qualification, however. Recall that the inclusive-exclusive distinction only occurs for the subject argument. The object, translated 'us' in the example above, can be used in a sense that either includes or excludes second person. This is a fact that does not follow from the feature specifications as given, but must simply be taken as an 'extension' of the form to cover a position in the paradigm.

These cases that we've looked at in some detail are the most challenging to account for in an approach that assigns specific features to each morpheme involved in person

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marking. The other forms and their translations follow directly from the features as they are given.

Finally, note that in most cases there is only one third person pronominal marked on a verb. Thus to say 'They saw them,' the verb generally only specifies the plurality of either the subject or the object (the plurality of the other argument is usually clear from the context).

(522) ta-laqc'i-ɬ laq-laqc'i-ɬ
3PLSUB-see-PFV 3PLOBJ-see-PFV
'They saw him/them.' 'They/he saw them.'

In conclusion, it's certainly not a trivial matter to account for the standard person marking in a straightforward, systematic way. However, it will be seen that the problem is compounded by two nonstandard paradigms of person marking: those of the passive and inverse forms.

Before moving on, it is important to recall which arguments are marked on the verb in Tepehua. The following hierarchy was developed in 2.1.3:

(523) highest macrorole> 1 or 2 person > object of affix > Undergoer > other

As was noted there, the argument occupying the highest position on this hierarchy occurs as subject; the argument occupying the second highest position is encoded as the object; finally, any other argument may also be marked on the verb by the third plural prefix, *lak-*. We will have reason to refer to this hierarchy in the following discussion.

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2.4.5.2 Passive-reflexive person marking

First I will discuss the forms marking person that occur in the passive-reflexive construction. The problem presented by this construction is the variation in person marking. The remaining argument after application of the passive-reflexive suffix is marked either by a subject proform or by an object proform, as determined by person: if it is a speech act participant (first or second person) it is standardly marked with the subject proform; if it is third person, it is marked with the object proform. Recall (from 2.3.1.2) that this construction has the effect of 'delinking' the highest-ranking macrorole from subject position, with the result that it does not occur as a morpho- syntactic argument of the verb. By the hierarchy above, then, the next argument will occur as the subject of the verb. If that argument is first plural or second person singular or plural, it is marked by the subject pronominal form on the verb:

(524) k- laqc'in-ka -w
1SUB-see -PASS-PL
'We(excl.) were seen'

(525) ka- misp'a:-k'an -e -'i
IRR-know -PASS-FUT-2SGSUB
'You(sg) will be recognized'

(526) 'ač'ani-k'an-a:-t'ik
like -PASS-IMPF-2PLSUB
'You(pl) are liked'

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If that argument is first person singular it may be marked by the object proform though the subject form is apparently the preferred form for most speakers:

(527) ? ki- sa:-ka -ɬ

1OBJ-hit-PASS-PFV

'I was hit'

(528) k- sa:-ka -ɬ

1SUB-hit-PASS-PFV

'I was hit'

However, if that argument is third person plural, it *must* be marked by the object proform:

(529) lak- sa:-ka -ɬ

3PLOBJ-hit-PASS-PFV

'They were hit'

(530) *ta- sa:-ka -ɬ

3PLSUB-hit-PASS-PFV

'They were hit'

Thus, the paradigm of passive proforms in the passive-reflexive construction in Tepehua is almost identical to the standard subject paradigm given in (514) with one significant difference: third plural is marked by the object proform rather than the subject proform (and first singular is optionally so marked).

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(531) PASSIVE-REFLEXIVE PARADIGM

k- / kin-	k--w
	--w
-'-	-'-t'ik
	lak-

It should be noted that in spite of the morphological difference of case agreement in this paradigm, the little syntactic evidence available suggests that all persons, third plural included, display subject characteristics: first, the argument is coreferential with the subject of the desiderative:

(532) k- ṡtaq-ni-putun-kan 'aqṡ-taun ha:ɬiki
1SUB-give-DAT-DESID-PASS(IMPF) CLASS-one paper
'I want to be given a sheet of paper.'

(533) ni ci'i-n lak-i:-putun-kan
the girl-PL 3PLOBJ-buy-DESID-PASS(IMPF)
'The girls want to be bought (married).'
*"The girls are wanted to be bought.'

Also, perhaps more significantly, the passive with third plural occurs across clauses to mark 'same referent,' as does the passive with other persons (see 2.3.1.2).

The passive construction in Tepehua provides our first bit of evidence for the main point I'm trying to establish here: that

first and second person pronominal forms are determined by the status of the argument as subject or object, i.e. at the syntactic level. The third person form is determined by the

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semantic status of the argument (much as the semantic pivot in RRG). We can compare the mapping in a standard transitive clause with that which occurs in its passive counterpart:

(534) k-ma:stak'a:-ya:-n

1SUB-greet-IMPF-2OBJ

'I greet you.'

```
Subject  Object        k-, -n      Syntactic Level
  ¦        ¦
Actor    Undergoer                 Semantic Level
 ¦          ¦
 ¦          ¦
 I  greet  you
```

(535) k-ma:stak'a:-ka-l

1SUB-greet-PASS-PFV

'I was greeted.'

```
     Subject                k-     Syntactic Level
        ¦
        ¦
Actor   Undergoer                   Semantic Level
¦        ¦
¦        ¦
X greet me
```

(536) lak-ma:stak'a:-ka-l

3PLOBJ-greet-PASS-PFV

'They were greeted.'

```
     Subject                        Syntactic Level
        ¦
        ¦
Actor   Undergoer          lak-     Semantic Level
¦        ¦
¦        ¦
X greet them
```

In the active clause (534), the first and second person forms are determined by their (syntactic) status as subject

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or object. In the passive clause (535), the first person form again is determined by its status as subject. In the passive clause (536), however, the third person form is determined not by its status as subject or object but by its semantic role. These facts will become more significant after comparing the forms that occur with the inverse verbs.

2.4.5.3 Inverse verbs

There is a small class of verbs in Tepehua which are parallel to the sort of verbs which often have been referred to as 'inverse verbs' or 'psych-verbs' in the literature.

Some of these inverse verbs are metaphorical extensions of verbs that take standard person marking:

(537) metaphorical inverse verb source verb

a. ma:qama:- 'please' ma:- (causative)+qama:'play'

b. pa:stak'u:-'be worried by' pa:stak-'think';'u:-'eat'

c. č'apa- X (where X is some physical condition such as a sickness, sleepiness, etc.) < č'apa,'grab'

d. ča:ni- 'bore' < ča:, 'cook(intrans.), ripen'(??)

f. laqtanu:- 'influence' (esp. alcohol) <laq-,'body'+ tanu:- 'enter in')

Some don't have any obvious source:

(538) a. tanča:- 'obstruct'

b. [body-part]+taɬma:- 'fall on X's [body-part]'

Other inverse verbs, rather than being metaphorical extensions, are derived from stative verbs by the addition of the dative suffix *-ni*:

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(539)	derived inverse verb	base form
a.	ṡkani- 'it hurts on X'	ṡka- 'it hurts'
b.	c'anqa:ni- 'it lacks to X'	c'anqa:- 'it's missing'
c.	tawkṡni- 'it itches on X'	tawkṡ- 'it itches'
d.	ɬi:pa'i:ni- 'it feels/ seems good to B'	ɬi:pa'i:- 'it feels good'
e.	pa:ṡtoqni- 'it's X's turn'	pa:ṡtoq- 'X meets up w/Y'
f.	taṡtuni- 'come out of X's body (where X is animate)'	taṡtu- 'exit'

As we've seen, the dative suffix *-ni* is a common valence-increasing affix in Tepehua that may occur on most verbs, including many other stative verbs. However, unlike the inverse verbs discussed here, other verbs with *-ni* or other valence-increasing affixes take the standard person marking common to transitive verbs, as I showed earlier. That is, in the normal case it simply adds an argument to the verb that becomes the derived undergoer. These inverse forms are unusual, then, and so must be specified as separate lexical entries.

In RRG, inverse constructions universally involve stative or achievement verbs that have a single macrorole. Now, as shown in 2.1, this characterization is true of various stage-level statives and achievements that have locative and theme arguments in their LS but only one macrorole. What is unique about the inverse verbs in Tepehua is that, unlike those stative and achievements, they are

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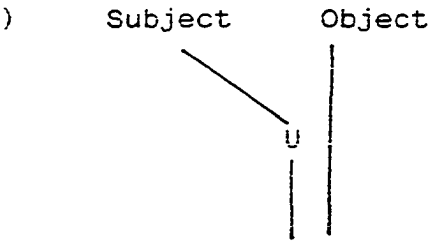
syntactically transitive. The representation of their lexical and syntactic structure, then, is something like the following:

(540)



(where x=theme, y=locative)

Since no activity predicate is present, it follows that the single macrorole must be undergoer. Following the Actor-Undergoer hierarchy, theme outranks locative for undergoer assignment. Then the single macrorole is realized as subject. Up to this point, nothing special has been stipulated; everything follows from standard mapping procedures for non-ergative languages with a pragmatic pivot. The only special stipulation about the inverse verbs is that they are syntactically transitive. That is, unlike the standard case in Tepehua, the number of syntactic arguments is greater than the number of macroroles without any valence-increasing affixes.[3]

Recall that this set of verbs is distinctive in at least two ways. First, they (virtually) always have one argument which is third-person singular and usually

[3] Several of the inverse verbs have the dative suffix *-ni*, but as already argued, it is not used in its productive sense with these verbs: the full form has been lexicalized.

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inanimate.[4] Second, (and the key point here) when the locative argument is first or second person it is morphologically marked by the object form on the verb. However, if the locative is third person plural it is marked by the third plural subject proform, *ta-*. The contrast with the standard transitive paradigm can easily be seen with the inverse (metaphorical) and standard uses of *č'apa-*, 'grab':

(541)	kin-č'apa-ɬ taqan'a:-ti	kin-č'apa-ɬ
	1OBJ-grab-PFV sick-NM	1OBJ-grab-PFV
	'I got sick.'	'X grabbed me.'
	č'apa-n taqan'a:-ti	č'apa-n
	grab-2OBJ sick-NM	grab-2OBJ(PFV)
	'You got sick.'	'X grabbed you.'
	č'apa-ɬ taqan'a:-ti	č'apa-ɬ
	grab-PFV sick-NM	grab-PFV
	'X got sick.'	'X grabbed Y.'
	kin-ta-č'apa-n	kin-ta-č'apa-n
	1OBJ-3SUB/PL-grab-2OBJ	1OBJ-3SUB/PLgrab-2OBJ
	'We got sick.'	'We (incl) grabbed X.'
	ta- č'apa-n taqan'a:-ti	ta-č'ap'a-n
	3SUB/PL-grab-2OBJ sick-NM	3SUB/PL-grab-2OBJ(PFV)
	'You (pl) got sick.'	'X grabbed you(pl).'

[4] It is possible, with some speakers (with some inverse verbs), to elicit forms with non-third person subjects, but speakers differ regarding the acceptability of such forms and regarding what person marking on the verb is appropriate.

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ta- č'apa-ɬ taqan'a:-ti	lak-č'apa-ɬ
3SUB/PL-grab-PFV sick-NM	3OBJ-grab-PFV
'They got sick.'	'X grabbed them.'

Thus the paradigm for person marking with inverse verbs is exactly like the standard marking for objects except that the third plural is marked with the subject proform:

(542) INVERSE PARADIGM

	sg.	pl.
1	kin-	kin-ta--ni
2	-ni	ta--ni
3	ø	ta-

As noted, the key issue here is the status of the locative argument, marked by object proforms when it is first or second person and by the subject proform when it is third person. Given the mapping onto underogoer and subject positions displayed above, the object proforms for first and second person aren't surprising. The peculiarity of the third person marking, I will argue, is due to the fact that the argument ranks highest on the Acotr-Undergoer hierarchy.

Some evidence that this argument is, in fact, the highest-ranking semantically can be seen in constructions involving the reflexive nominal. The pronominal possessor of this nominal must be bound by the highest-ranking argument --typically the actor. Note the following examples:

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(543) Ni ṡa:pay maqni:-ɬ ni maqtali: ṡ-'aman

the man kill-PFV the wild.cat 3POSS-self

'The man killed the wild cat by himself.'

*'The man killed the wild cat by itself.'

(544) Ni c'al wa: laqc'i-ɬ ni 'alawa:-na: ṡ-'aman

the boy FOC see-PFV the steal-NOM 3POSS-self

'The boy$_i$ saw the thief$_j$ by himself$_{i/*j}$.'

Only readings in which the highest-ranking argument binds the possessor of the reflexive nominal are possible. There is also evidence to this effect in the passive-reflexive construction discussed in 2.3.1.2.1. Thus, this accounts for the fact that the reflexive reading of the passive-reflexive construction is forced by the presence of a reflexive nominal in the clause. The syntactic argument of the verb --the possessed nominal --is undergoer, as marked by the passive suffix *-kan*, but it must be coreferential with the actor for the reflexive nominal to receive an interpretation. The result is a reflexive reading. If we compare these facts with the reflexive in a inverse verb construction we find that only one nominal may bind the proform on the reflexive nominal:

(545) Ni s'at'a pa:stak'u:-y 'iṡ-nati ṡ-'aman

the child worry-IMPF 3POSS-mother 3POSS-self

'The child worries by himself about his mother.'

*'The child worries about his mother herself/only.'

Here the highest-ranking argument, then, must be the worrier, the affected argument. This is apparently the

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case with all the inverse verbs: the affected argument patterns semantically as the highest-ranking argument, specifically, the locative.

The problem of how to account for the pronominal forms that occur with the inverse verbs now seems to have a solution that fits that given for the passive forms: the third person form is determined at the semantic level (its relative position on the Actor-Undergoer hierarchy), while the first and second person forms are determined at the syntactic level, where subject and non-subject are distinguished. Thus, in inverse verbs, the third person form that refers to the affected argument is the 'subject' pronominal, since it marks the highest-ranking argument on the Actor-Undergoer hierarchy. In passive constructions, on the other hand, the actor is absent from the syntactic representation, the single syntactic argument being undergoer. The third person form, then, is the 'object' pronominal, even though it has subject behavioral characteristics.[5]

The pronominal form for a first or second person argument also follows from this formulation: the form of its pronominal is determined not by its semantic ranking but by its syntactic status. With inverse verbs, it is a non-subject core argument and so is marked by the object

[5] More precisely, a third person argument takes the 'object' proform when it is the lowest-ranking argument that is syntactically realized and the 'subject' proform otherwise. Thus in the case of a stative or achievement verb with two arguments (locative and theme) in its LS but only one syntactic argument, the theme-undergoer is realized by the 'subject' proform on the verb.

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proform. In the passive construction, though it is undergoer, it is marked by the subject proform since it is the syntactic subject.

Even more striking evidence of this analysis is the fact that the inverse verbs are the only verbs in the language (besides the copula, *hun*) that cannot take the passive suffix. The passive-reflexive suffix *-kan*, recall, has the following function: with intransitive verbs it makes the single argument of the verb to be syntactically unspecified; with transitive verbs, it marks the actor as syntactically unspecified. According to the account given here, however, the inverse verbs are the only transitive verbs that have no actor macrorole; hence, they cannot occur in a passive construction.

In the inverse constructions, then, the third person forms are determined at the semantic level: *ta-* occurring since it is the highest-ranking argument on the Actor-Undergoer hierarchy. The first and second person forms,on the other hand, are determined by the argument's syntactic status. With inverse verbs they are marked by the object proforms since they are syntactic objects.

We can summarize what we have found thus far:

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(546) a. First and second persons are marked by subject proforms when they function as subject of the clause.

b. Third person plural is marked by *ta-* if (of the syntactic arguments) it is the highest-ranking argument on the Actor-Undergoer hierarchy. Otherwise, it is marked by lak-.

In the assignment of features to the affixes for person and number, we were able to simply consider *ta-* as marking third person 'subject,' since we were only considering direct forms (and not the passive or inverse constructions) and in such forms subject=highest-ranking macrorole. Now it is clear that our statement regarding third person marking must be refined as in (546), above. However, it is still the case, that when first and/or second person is involved, the relevant level for contrast between arguments is the syntactic level of subject vs. object. It is in just such forms that *ta-* marks s[-1,-2],[+pl], as we can see in forms such as the following:

(547) kin-ta-pa:stak'u:-ya:-n ke-s'at'a-n

1OBJ-3SUB,PL-worry-IMPF-2OBJ 1POSS-child-PL

'Our children worry us.'

2.4.5.4 Multiple object marking

As noted above, the inanimate argument in the inverse verb constructions is usually third person singular. It should be noted, however, that there are instances in which it may be plural:

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(548) lak- tawkṡ-ni-ya:-n mi-maka-n

3PLOBJ-itch-DAT-IMPF-2OBJ 2POSS-hand-PL

'Your hands itch you.'

Here, as we would expect, we find two object pronominal forms: the third person object form is determined by that argument's semantic status as theme; the second person object form in (548) and the first person object form in (547) both reflect their syntactic status as non-pivots.

There are other constructions in which double object marking occurs. One is the dative construction when one of the non- subject arguments is first or second person and the other is third person[6]:

(549) ki- lak- ma:- su: -ni -ɬ

1OJB-3PLOBJ-CAUS-appear-DAT-PFV

'S/he showed them to me.'

'S/he showed me to them.'

Again, the third person form is determined by that argument's semantic role (it is not the highest-ranking argument so is realized by *lak-*), while the first person form is determined by its syntactic function as non-subject (it is the marked undergoer choice, by the presence of *-ni*; see 2.1):

[6] I have no occurrences in texts nor have I found it possible to elicit forms with two non-subject arguments, neither of which is third person, e.g., 'he gave you to me' or 'he showed me to you.'

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(550) Subject other core arguments kin-

Actor Undergoer Outer Core lak-

(be.at'[DO (X,[do'(X)])]CAUSE[appear'(them)],me)

ki-lak-ma:-su:-ni-l

'S/he showed them to me.'

2.4.5.5 Conclusion

The Tepehua data reviewed here demonstrate the importance of distinguishing the semantic level at which actor and undergoer are distinguished from the syntactic level at which subject is distinguished from non-subject. The subject-object pronominal forms occurring on the verbs reflect either of these levels, depending on the person involved. First and second person forms are determined at the syntactic level, the level at which subject (or pragmatic pivot in RRG) is determined. Third person forms are determined at the semantic level, by their relative position on the Actor-Undergoer hierarchy.

This is just the sort of split that one would expect, given the hierarchy of features as discussed by Silverstein 1976. First and second person are the indexicals or 'shifters'; on the other hand, the

> syntactic behaviour [of third person] is entierly different. 'Third person' noun phrases are basically

syntactic behaviour [of third person] is entierly different. 'Third person' noun phrases are basically

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> nominal, that is, they are basically lexical nouns, and in transformational terms we can say that languages have rules of several kinds for 'pronominalisation' under certain conditions, giving rise to anaphoric (co-referencing) and appositional (cross-referencing) surface units that preserve, to different degress, lexical properties of the underlying nominal expressions. (1976:117)

In fact, Silverstein has presented compelling evidence that what we might call the 'saliency'[7] of first and second person vis-a-vis third often has definite morphosyntactic effects. Thus he claims

> speaker (and/or addressee) will most 'naturally' be the prior referent, the privileged one, generally 'Agent-of' and 'Subject-of' in direct (as opposed to inverse) predicate schemata. (1981:243)

As we've seen, this is just the sort of distinction that comes out in determining the morphology of person marking in Tepehua. We can propose the following hierarchy or ranking of persons, along which we can plot the forms that occur with direct and inverse predicates (the arrows designating increasing markedness)[8]:

---

[7] As noted in chapter 1, this is the term used by Fillmore in discussing the factors that determine 'which elements are brought into perspective' in a clause and so become core arguments. In fact, 'humanness' is a key factor he presents along this line, though Fillmore doesn't specifically distinguish first and second person from third. Of course, it is precisely the speech act participants that are the most prototypically human. It should be noted that Silverstein's hierarchy (which is much more extensive than that presented here) has since been commonly referred to by other linguists as an 'animacy' hierarchy, as in Comrie 1981.

[8] The idea of relating the distinct marking of proforms in Tepehua to Silverstein's hierarchy was suggested to me by R. Van Valin. Actually, further evidence--though somewhat tentative-- could be presented for ranking second person over first. This might then account for the fact that some speakers accept the object form for first person singular in the passive.

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(551) Direct (non-inverse) predicates (including passive):

```
        2
                  >       3
        1

     Subject ------------>
     proforms

       <-------------Object
                     proforms
```

(552) Inverse predicates:

```
        2
                  >       3
        1

     Object ------------->
     proforms

       <-------------Subject
                     proforms
```

With direct predicates, the subject pronominals are the unmarked forms for first and second person; with inverse predicates, the object pronominals are the unmarked forms for first and second person.

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2.4.5.6 Second person: form and function

The second person singular forms of Tepehua verbs demonstrate the most varied allomorphy of any inflectional category. In addition, these forms have a special conventionalized function that is similar to the 'generic' use of second person in other languages. I will present the relevant facts in this section.

First I will discuss three morphological features shared by both the second singular and second plural forms: glottalzation, suppletion and presence of an additional suffix in the future. Then I will present some of the details peculiar to second singular subject forms.

The most consistent morphological marking of second person subject (singular or plural) in Totonac and Tepehua is the glottalization/laryngealization of the verb. In Tepehua this is realized as a glottalization of all pre-vocalic stops in the verb. In the imperfective aspect, this glottalization is the only feature that distinguished second singular subject from third singular. Thus compare the following forms:

(553) a. ɬtata-y
sleep-IMPF
'X sleeps.'

b. ɬt'at'a-y
sleep(2SUB)-IMPF
'You sleep.

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(554)a. tapa:ca:-y

work-IMPF

'X works.'

b. t'ap'a:c'a:-y

work(2SUB)-IMPF

'You work.'

(555)a. k'aca:-y

know-IMPF

'X knows.'

b. k'ac'a:-y

know(2SUB)-IMPF

'You know.'

For verbs that have no pre-vocalic stops the second and third person forms are identical in the imperfective:

(556) sa:-y

hit-IMPF

'X hits Y,' or 'You hit Y.'

This glottalization occurs in second plural subject forms as well:

(557) ka-ɬt'at'a:-t'ik (stem: ɬtata-)

IRR-sleep-2PLSUB

'May you(pl.) sleep!'

For further detail regarding second person glottalization, see the Appendix and Watters 1987.

The only instances of suppletion in Tepehua verbal paradigms are found with the verbs *'an*, 'go', and *min*, 'come', and with verbs that are derived from these two.

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Second person singular and plural forms of these verbs are formed on the suppletive roots, *pin*, '(you) go', and *t'an*, '(you) come.' Thus note the following forms:

(558)a. ka-ta-min-a: ɬiy

IRR-3USB,PL-come-FUT tomorrow

'They will come tomorrow.'

b. ka-t'an'-a:-p'i:-t'ik ɬiy

IRR-come-FUT-2SUB,FUT-2PLSUB tomorrow

'You (pl.) will come tomorrow.'

(559)a. ɬa:ka:pu:'an

believe(IMPF)

'X believes Y.'

b. ɬa:k'a:p'u:p'in

believe(2SGSUB)(IMPF)

'You(sg.) believe Y.'

In (558), the suppletion occurs in the simple verb stem *min* ~ *t'an*, 'come', and in (559), the suppletion occurs in the morpheme *'an* ~ *pin*, 'go', found within the derived form *ɬa:ka:pu:'an*, 'believe'.[1]

[1] This form for 'believe' is only found in the Tlachichilco dialect and apparently comes from one of the following two derivations:
(i) ɬaka:, 'eye', + pu:, VIA + 'an 'go'
(ii) ɬaka:pu:, 'face' + 'an 'go'
Note, however, that in both instances above the first vowel is short, whereas in the derived verb, ɬa:ka:pu:'an, it is long. There are two similar verb forms referring to vision that include the morphemes for 'go' and 'come': ɬaka:'an, 'look in that direction', and ɬaka:min, 'look in this direction.' These forms can occur with the VIA prefix, pu:-, with the syntactic object being that through which the subject is looking:

pu:-ɬaka:-'an

(iii) ɬaka:-pu:-'an ni wenta:nah

eye-VIA-go ART window

'X looks that way through the window.'

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The second person singular and plural also require the presence of an additional suffix in the future tense: *-p'i*. In the singular, this suffix is commonly occurs in the reduced form *-'i* in the Tlachichilco dialect (though the full form always occurs in Hueheutla). This suffix is usually formally purely redundant, as the two features associated with it -- second person subject and future tense -- are already specified by other affixes (though it does serve to distinguish second person from third person subject when the verb has no pre-vocalic stops available for second-person glottalized):

(560)a. ka-sa:-ya:-p'i:-t'ik

IRR-hit-FUT-FUT,2SUB-2PLSUB

'You(pl.) will hit X.'

b. ka-ɬt'at'a-ya:-p'i ~ ka-ɬt'at'a-ye:-'i

IRR-sleep(2SUB)-FUT-FUT,2SUB

'You(sg.) will sleep.'

c. ku-'u-ya:-p'i ~ ku-'u-ye:'i

IRR-eat-FUT-FUT,2SUB

'You(sg.) will eat it.'

While second person plural subject forms share these three distinctive features with the second singular forms, they are otherwise simply marked by the suffix *-t'ik*. As

---

Note that except for the vowel length, this form is identical to the form for 'believe'.

The form for 'believe' in the Huehuetla dialect, ɬi:laka:'an is also built on 'an, 'go', and the prefix ɬaka:, 'face, eye', but has the directional prefix ɬi:- rather than pu:-. In the Pisa Flores dialect, the form is built on the stative verb wil, 'sit', with the directional prefix, ɬi:-: ɬi:wila:-y.

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can be noted in the above examples, this suffix lengthens any immediately preceding vowel. It is very regular, however, and occurs in its full form in any tense-aspect combination and with any verb stem.

The forms for second singular subject are only distinguished in the imperfective by the presence of the glottalization discussed above and in the future by the additional suffix, *-p'i* ~ *-'i*. In the perfective, however, second singular subject displays considerably more allomorphy.

First, second person singular is unmarked in the perfective if the verb form ends in a short vowel:

(561)ɬt'at'a

sleep(2SUB)(PFV)

'You slept.'

(562)p'u:t'e'e

read/tell/count(2SUB)(PFV)

'You read/told/counted it.'

(563)t'aṡt'u

exit(2SUB)(PFV)

'You went out.'

Second, it is marked by the suffix *-t'i* in the perfective if the verbs ends in a long vowel or a non-nasal consonant:

(564) maqni:-t'i

kill-2SUB(PFV)

'You killed it.'

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(565) śt'aq-t'i

give-2SUB(PFV)

'You gave it.'

(566) c'oq-t'i

write-2SUB(PFV)

'You wrote it.'

However, if the verb ends in a nasal, it is marked by loss of the nasal. (If the vowel which then occurs in word-final position is in turn preceded by a sonorant, it, too, must drop as a result of the final vowel deletion rule; see Appenix):

(567) laqc'i	laqc'in
see(2SUB)(PFV)	see(IMPF)
'You saw Y.'	'X sees Y.'
(568) 'ama:n	qama:nan
play/2SUB(PFV)	play(IMPF)
'You played.'	'X plays.'

We can summarize the standard morphology for second singular subject, perfective aspect forms in the following way (where a single V stands for a short vowel and double VV for a long vowel):

(569) [XCV(n)] --> [XCV]
[Verb] [Verb [2SG,PFV]]

[XC(VV)] --> [XC(VV)t'i]
[Verb] [Verb [2SG,PFV]]

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These rules, along with the rule for second person glottalization (which applies in any tense or aspect), account for all polysyllabic verb stems.

There are two sets of regular 'exceptions' to the above rules: the first involves monosyllabic verb roots of the shape CV(n). Thus, a monosyllabic verb stem ending in [n] (when not protected by an intervening suffix) takes the *-t'i* suffix rather than lose the nasal:

(570) č'an-t'i

sow-2SUB(PFV)

'You sowed it.'

(571) ha:ntu ka-č'an-p'ut'u (< ka-c'an-putun)

NEG IRR-sow-DESID/2SUB(PFV)

'You didn't want to sow it.'

Similarly, if a monosyllabic verb stem is of the shape CV, rather than having a second singular form with no suffix (as would be expected with a final short vowel), it takes the suffix *-t'i*:

(572) 'u-t'i

eat-2SSUB(PFV)

'You ate it.'

This set of exceptions are examples of forms constrained by what Pullum and Zwicky 1988 call 'shape conditions', and more specifically in this case, 'filtering shape conditions'. Note that if the standard processes for second person subject, perfective aspect were to apply to the above forms, we would have unpronounceable strings. Thus in (570),

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ċ'an is a monosyllabic verb stem. The standard marking for second person subject, perfective aspect would involve loss of the final nasal. However, as shown in the Appendix, any short, final vowel must be voiceless. This would give us [ċ'a], a totally voiceless, unstressed word. Similarly, the standard rules would applied to *'u*, 'eat(trans.)', would give us the unmarked verb stem, ['u]; unpronounceable for the same reasons. (Note that such an account provides a motivation for these 'irregular' forms, though it does not predict them. The language might just as well have chosen an alternative way to 'get around' the filter by lengthening the vowel, giving *ċ'a:* and *'u:*.)[2]

The second set of exceptions to (569) also provide an example of a shape condition affecting second person perfective verb forms. These are derived verb stems ending in the dative suffix *ni*. These mark second subject in the perfective not by some modification of the standard morphology of second person subject, by the addition of the second person object suffix *-n*:

(573) p'u:t'e'e-ni-n

read/tell/count(2SUB)-DAT-2OBJ

'You read/told it to him.'

[2] In Watters 1985 (and elsewhere) I listed *'u*, 'eat(trans)' as having a long vowel. Vowel length is notoriously difficult to distinguish in Totonac and Tepehua and my guess at that time was based on two things: (1) the allomorphy of these second person forms (it takes *-t'i* as would be expected of a long vowel); and (2) the fact that *'ut'i* has only one voiced syllable and the fact that Tepehua is more a 'stressed-timed' rather than 'syllable-timed' language (see Appendix) together give the impression that it is indeed long. However, when the same morpheme occurs in a word with several syllables, it is clearly has a short [u].

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This exemplifies the application of what Pullum and Zwicky 1988 call 'referral shape conditions'. It parallels their discussion of the well-known facts regarding gender of Spanish articles:

> when the definite article is adjacent to a feminine singular noun that begins with a vowel, its nomal shape, *la*, is discarded, and the shape assigned instead is that of the masculine article, *el*.

As they go on to point out, this is *not* a case of the morphosyntax being determined by the phonology: syntactic factors are crucially involved in determining the form of the article. In Tepehua, here again the choice of special allomorphy for second singular subject may appear to have a phonological motivation: if the stem were unmarked (as it would be following the standard rule for second singular subject, perfective), the [i] of the dative suffix *-ni* would be lost due to the rule of final vowel deletion (see Appendix), and the resulting form of the dative suffix would be identical to the second person object suffix. One might want to claim that this special allomorphy serves to preserve the 'recoverability' of dative suffix.

Such an account might provide insight into the historical source of such allomorphy. However, the choice of the second person object suffix to mark second person subject is clearly not a phonologically-driven rule; it is not a case of the morphosyntax having to 'peek' at the phonology. Rather, it is completely determined by a simple feature of the morphology: whether or not the verb stem ends in the dative suffix *-ni*.

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Using the second person object suffix to mark second singular subject can result in some ambiguity, of course. This is especially true for those verb stems which cannot be distinctively marked by the second person subject glottalization (those stems that either have no prevocalic stops or whose prevocalic stops are already glottalized):

(574) st'a:-ni-n

sell-DAT-2OBJ

'X sold Y to you,' or 'You sold Y to X.'

(575) sk'in-i-n

request-DAT-2OBJ

'X asked you for Y,' or 'You asked Y for X.'

However, in other instances the second subject form can be distinguished from the second object form in such cases by the glottalization of stops that is characteristic of second person subject:

(576) st'a:-ni-n (< st'a:- 'sell')

sell-DAT-2OBJ/SUB

'You sold it to B' or 'A sold it to you.'

(577) ṡt'aq-ni-n (< ṡtaq- 'give')

give/2SUB-DAT-2OBJ/SUB

'You gave it to B.' (cf., *staqnin*, 'A gave it to you.'

The second person singular subject and object forms of verbs are used in two different ways. First, they obviously have the function of indexing the addressee, the standard reading of the forms discussed above. However, they may also be used to refer to the action without any specific referent

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corresponding to the subject or object position marked by the second person morphology. This is what is often called the generic use of second person forms.

First, I should mention that this generic use of second person does not extend to clauses in which second person is marked by an independent pronoun. Thus the second person forms in the following clause can only be used to index the addressee:

(578) ka-miɬp'a:-t'i uṡint'i, ha:ntu oṡi ka-va:-ɬ

IRR-sing-2SUB(PFV) you, NEG good IRR-become-PFV

'If you sing, it wouldn't be good.'

Of course, this parallels the case in English, in the sense that the independent pronouns in Tepehua have functions similar to English pronouns with contrastive stress. In English, the generic use of you cannot be stressed (579a); any clause with stressed you necessarily refers to the addressee (579b):

(579)a. If you/ya travel too far north they'll get you/getchya.

b. If you' travel too far north they'll get you.

A further restriction on the generic use of second person forms in Tepehua is that it occurs only in the 'subjunctive' forms (those that have the irrealis prefix and perfective aspect). Second person forms in other tense/aspect combinations are regularly interpreted as referring to the addressee. The subjunctive, second person

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singular subject forms are usually given by Tepehua speakers in translation of the Spanish infinitive citation form:

(580)trabajar ka-t'ap'a:c'a:-t'i
IRR-work-2SUB(PFV)
cantar ka-milp'a:-t'i
IRR-sing-2SUB(PFV)
vivir ka-cuk'u-t'i
IRR-live/begin-2SUB(PFV)

However both second person singular subject as well as second singular object forms can function in this generic sense:

(581)ka-t'ap'a:c'a:-t'i laka: hulča:n ɬi:-laqaloqo-w
IRR-work-2SUB(PFV) PREP day DIR-tire-1PLSUB
'Working during the day, we get tired (from it).'

(582)ka-ma:pa:ca:-n ki-'ukštin-k'an ɬi:-laqaloqo-w
IRR-cause.work-2OBJ(PFV) 1POSS-boss-PLPOSS DIR-tire-1PLSUB
'Our boss working you all day, we get tired (from it).'

(583)ka-ma:-ma:-t'i 'esteron 'eš ni:-y hawan
IRR-CAUS-lie-2SUB(PFV) esteron then die-IMPF plants
'If you put out esteron, the weeds will die.'

As can be seen in (581) and (582), the generic use of second person singular forms often occurs with an adjacent clause in which the subject is first plural inclusive. Another example follows:

(584)ka-štaq-ni-n 'oš tumin ka-'a-w tapa:ca:-ni-n
IRR-give-DAT-2OBJ(PFV) good money IRR-go-1PLSUB work-INF-PL
'If he pays (you) good money, we'll go work.'

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It is interesting to note that in these complex sentences, if the free pronoun *kihnan(k'an)*, 'we, us', occurs, it need not occur within the clause of the verb marked for first person plural; rather, it can occur preceding or following the generic second person form:

(585)'inča kihnank'an ka-t'ap'a:c'a:-t'i eš ɬi:-laqaloqo-w
if we IRR-work-2SUB(PFV) then DIR-tire-1PLSUB
'If we work, we get tired.'

(586)ka-pi-ti kihnank'an ošitempa ɬi:-laqaloqo-w
IRR-go(2SUB)-2SUB(PFV) we Ošitempa DIR-tire-1PLSUB
'Going to Ošitempa, we get tired.'

The independent pronouns function in apposition to the pronominal forms on the verb, which actually fill the morphosyntactic argument positions. The features of these independent pronouns must, of course, match the features of the pronominal forms with which they are in apposition; i.e., the pronominal forms that occur on the verb in their clause. However, in each of the sentences above, *kihnank'an* occurs in a clause in which the verbal pronominal form is that which usually marks second person singular. Rather than seeing such sentences as exceptions, however, it is clearly preferable to consider these clauses as having verbs with no specification of features for person and number. That is, the second person singular morphology involves a set of morphosyntactic features (glottalization, *-t'i*, for subject, *-n* for object) that most commonly serve to form a construction in which the argument refers to the addressee.

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However, these same sets of morphosyntactic features can occur in other constructions in which the argument has no referent, i.e., it is unspecified. In sentences such as (585) and (586), above, then, the features of *kihnank'an* do no conflict with the features specified by the verbal pronominal in the clause since it, in fact, specifies no features at all for person and number .

The unspecified nature of the referent in the generic second person constructions can be further exemplified in sentences such as the following:

(587)Ni anu: ki-'ukštin-k'an yu:ča laqc'in-in inča ha:ntu
ART that 1POSS-boss-1PLPOSS he see-AP(IMPF) if NEG
tontoh lapana:ki ku-'un-t'i
stupid person IRR-become-2SUB(PFV)
'Our boss over there is looking to see if you (generic) aren't (too) dumb (for the job).'

(588)Ni anu: ha-sa:-na: wa: niman łi:-milpa:-nan yu:
ART that HA-hit-AGTNOM FOC immediately DIR-sing-AP REL
ka-mak'a:-t'i tu'učun
IRR-do-2SUB(PFV) anything
'That musician sings right away sings about anyone who does something.'

In both the above sentences, the verb of the main clause has the antipassive suffix *-nVn*, thus marking its object as unspecified. The subject of the dependent clause corresponds to that unspecified argument position and is, in fact, a construction that has no specific referent -- the

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'generic' construction with second person singular morphology.

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2.4.5.7 Third person plural object

Some complications regarding the choice of the third person plural object prefix, *lak-* vs. third person plural object prefix, *ta-*, have already been discussed above. In this section I will briefly discuss the two forms that generally mark nonsubject plurality: *lak-* and *ha:-*.

First, it is important to note that the only form for third person plural object in the Huehuetla dialect is often simply *'a-*, cognate to the Tlachichilco form, *ha:-*; the verb prefix *lak-*, 'third plural object,' when it does occur in Huehuetla, follows *'a-*:[1]

(589)a.'alak-hun-i

3PLOBJ-say-DAT(IMPF)

'X tells them.'

b.'alak-t'a:-mi-ʔ

3PLOBJ-COM-come-PFV

'X came with them.'

However, third plural object is apparently more often marked in Huehuetla simply by *'a-*:

(590)a.'a-hun-čoqo-pa

3PLOBJ-say-again-REP(PFV)

'Again X told it to them.'

[1] The Huehuetla examples are from material provided me by D. Herzog. Vowel length is not marked there and I am not sure about the lenght of the Huehuetla prefix *'a-*. Another relevant point: In Huehuetla, the pluralizing prefix that occurs on adjectives is *lak-*, rather than *laq-* as in Tlachichilco (see chapter 3).

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b.'a-laqc'i-~~l~~ hu: lapana:k-ni

3PLOBJ-see-PFV ART person-PL

'X saw the people.'

c.'iṡ-'a-hun-kan

PT-3PLOBJ-say-PASS(IMPF)

'They were being told.'<fn>

d.'a-t'asa-ni-~~l~~

3PLOBJ-call-DAT-PFV

'X called for them.'

In the Tlachichilco dialect area, the cognate prefixes, *lak-* and *ha:-*, also may co-occur:

(591)a.ha:-laq-xtaq-ni-~~l~~

PL-3OBJPL-give-DAT-PFV

'X gave it to them.'

b.ha:-lak-st'a:-ni-~~l~~

PL-3PLOBJ-sell-DAT-PFV

'X sold it to them.'

In fact, there is a very definite subdialectal distinction present here. Most speakers of the Chintipán subdialect regularly use *ha:-* along with *lak-* whereas speakers of the Tierra Colorada subdialect rarely use both on the same verb, preferring to use only *lak-*. However, though they vary in the forms they typically produce, the above forms are acceptable to speakers throughout the Tlachichilco dialect area with or without *ha:-*. Unlike the Huehuetla dialect, transitive verb forms with third plural objects do not occur without *lak-*. That is, while in Huehuetla, *lak-* is

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apparently more dispensable than *'a-*, the situation is the reverse with the cognate forms in Tlachichilco.

There is, however, one construction in the Tlachichilco dialect in which *ha:-* may occur and *lak-* may not: the antipassive construction. Syntactically, such a construction typically has no object. However, if the understood object is plural or the event is multiply realized, the prefix *ha:-* may occur (again with the frequency of its usage follows the preferences in the subdialects mentioned above). Thus, in the Tlachichilco dialect area, *lak-* marks 'third plural (syntactic) object', while *ha:-* marks 'third plural unspecified object' or 'multiple action'. (For more discussion of Tlachichilco *ha:-* and Huehuetla *'a-*, see the beginning of chapter 4.)

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2.5 Infinitive construction: form and function

What I am calling the infinitive in Tepehua is formally very similar to the agent nominal forms (see chapter 4). There is no specification for tense, aspect or person, and number is marked by the same plural suffix that occurs on nouns: *-n*. The form of an infinitive is primarily governed by the transitivity of the verb stem and secondarily by its phonological shape.

Infinitives of transitive verbs regularly end in *-nVV* in the singular. This is very similar to the formation of agent nominals on a transitive verb base, in which the unspecified object suffix, *-nVn*, occurs, followed by the rule of *-n* truncation common to all deverbals and by vowel lengthening (see chapter 4). The resulting form for agent nominals formed on transitive verbs, then, is also *-nVV*. Thus the following forms built on transitive verb stems serve as both singular infinitives and singular agent nominals:

(592) st'a:-na: 'to sell'; 'seller'
sell

maqni:-ni: 'to kill'; 'killer'
kill

k'uč'u:-nu: 'to heal'; 'curer'
heal

laktu'u:-nu: 'to insult'; 'insulter/mean person'
insult

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However, there are several differences between the infinitive forms and the agent nominals.

First, the agent nominals are, as might be expected, significantly more limited in their occurrence. Since they are used to label individuals as members of certain professions or according to characteristic activities, they don't occur with just any verb base. This is clearly a pragmatic constraint but one that has very definite effects on the comparative distribution of infinitives and agent nominals.

Second, as discussed in 4.2.3.4, the agent nominals, like other deverbals, must be formed on an intransitive verb base; i.e., either an inherently intransitive verb or one that has been detransitivized by addition of the unspecified object suffix *nVn*. This is not true of the infinitive forms; transitive as well as intransitive infinitives occur. The infinitive forms demonstrate a formal neutralization of constrast between forms with and without the suffix *-nVn* (i.e., between detransitivized and fully transitive forms). Thus, a form such as the following has two possible readings:

(593) t'ahun st'a:-na:

is(IMPF) sell-INF

'X is selling,' or 'X is selling it.'

However, though there is no contrast between infinitives of transitive verbs and infinitives of their detransitivized forms, several facts show that the stem does not have to be

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intransitive to serve as a base for infinitive formation. This can be seen first of all in that a possible reading of (593), above, treats it as a transitive verb. Similarly, an object NP can occur with such forms:

(594) t'ahun č'uk'u-nu: łaqč'i:ti

is(IMPF) cut-INF cloth

'X is cutting cloth.'

And, for those predicates that have distinct (though related) transitive and intransitive forms, either can occur in the infinitive:

(595) t'ahun łi:či:mo'o:-n

is(IMPF) govern/rule(trans)-INF

'X is ruling/governing Y.'

(596) t'ahun ła:či:mo'o:-n

is(IMPF) govern/rule(intr)-INF

'X is ruling/governing.'

Notice that in these examples the two infinitives end simply in *-n* rather than *-nVV*. The forms with *-nVV*, are also acceptable, however: *łi:chi:mo'o:-nu:* and *ła:chi:mo'o:-nu:*. This brings up another formal difference between infinitives and agent nominals: the former often display variation between forms ending in *-n* and forms ending in *-nVV*, while the latter have regular, consistent forms (*-nVV* for transitives and some intransitives, *-VV* for other intransitives; see 4.2.3.4).

Finally, there is a formal difference between infinitives and agent nominals when they occur with an

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intransitive verb base. While an agent nominal with an intransitive base ends in either *-VV* or *-nVV*, the facts are somewhat more complex for intransitive infinitives, as phonological features of the base partly determine the form. Infinitives of intransitive verbs that end in a long vowel or consonant are formed by suffixing *-n* or *-ni*, respectively[1]:

(597) a. 'a-ɬ paṡ-ni
go-PFV bathe-INF
'X went to bathe.'

b. t'ahun taqan'a:-n
is(IMPF) get.sick-INF
'X is getting sick.'

c. t'ahun 'oca:-n
is(IMPF) get.fat-INF
'X is getting fat.'

d. t'ahun paq-ni
is(IMPF) burst-INF
'X is bursting/giving birth.'

e. te-'en lakataya:-n
TI-go(IMPF) get.dressed-INF
'X is going (there) to get dressed.'

f. t'ahun to:qsla:-n
is(IMPF) get.on.surface-INF
'X is getting on the surface.'

[1] The rule does not actually specify two forms, as the *i* of *-ni* is totally predictable here as an epenthetic vowel; see Appendix.

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If the intransitive verb ends in a short vowel, the corresponding infinitive form simply ends in the corresponding long vowel:

(598) a. te-'en u:c'u:

TI-go fetch.water(INF)

'X is going (there) to get water.'

b. t'ahun sk'it'i:

is(IMPF) grind.corn(INF)

'X is grinding corn.'

c. t'ahun 'uh'u:

is(IMPF) cough(INF)

'X is coughing.'

d. te-'en ɬtata:

TI-go sleep(INF)

'X is going (there) to sleep.'

However, there is a surface constraint on the overall shape of infinitives: no infinitive may be monosyllabic. Thus, when an infinitive is formed on a monosyllabic vowel-final verb root, the ending is regularly the same as that found with transitive infinitives: *-nVV*.[2]

[2] Note that on monosyllabic consonant-final verb roots, as shown above, this surface constraint is met by the suffix, -n, and the epenthetic i forming a second syllable. Note also, that if the suffix were to be simply -nV (i.e., with a short vowel rather than a long vowel) for vowel-final monosyllabic stems, the surface constraint would not be met. The vowel of the suffix would be lost, following the vowel-final deletion rule (see Appendix) and the nasal would be syllabified with the single syllable of the root. The resulting form would, then, be monosyllabic.

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(599) a. t'ahun ni:-ni:

is(IMPF) die-INF

'X is dying.'

b. t'ahun ay-na:

is(IMPF) grow-INF

'X is growing.'

c. t'ahun c'a:-na:

is(IMPF) cook-INF

'X is cooking.'

There is one final group of intransitive verbs which have infinitive forms that don't correspond to the rules discussed above: those that end in *-nVn*. These infinitives are formed by application of a rule of final nasal deletion: formally the same rule that applies in second person perfective forms (see 2.4.5) as well as in all deverbal nominals (see chapter 4):

(600) X Y n] --> X Y]

Since these forms end in *-nVn*, however, following the loss of the nasal, the short vowel is also lost if it in turn is preceded by a vowel-nasal sequence (as specified in the final vowel deletion rule; see Appendix). The result is that infinitives of intransitive verbs ending in nasals reveal the following patterns:

```
(601) a. V C V C  --> V C
         ¦ ¦ ¦ ¦      ¦ ¦
         X n Y n]     X n]

      b. C V C  -->  C V
         ¦ ¦ ¦       ¦ ¦
         X Y n]      X Y  ]
```

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(The final syllable in the derived forms found in (b) are voiceless phrase-finally; see final devoicing rule, Appendix).

Thus, note the following examples:

(602) a.	t'ahun 'aqlaqawa:n	'aqlaqawa:nan
	is(IMPF) dream(INF)	dream(IMPF)
	'X is dreaming.'	'X dreams.'
b.	te-'en hak'iwkɬni	hak'iwkɬnin
	TI-go jump(INF)	jump(IMPF)
	'X is going (there) to jump.'	'X jumps.'
c.	'a-ɬ maqpan	maqpanan
	go-PFV defecate(INF)	defecate(IMPF)
	'X went to defecate.'	'X defecates.'

In summary, the formal characterization of the surface form of infinitives shares a number of features with agent nominals: transitive stems and some intransitives with *-nVV*, application of the rule truncating final *-n* on some intransitives, and the ending *-VV* on many other intransitives. As a result, many of the surface forms of infinitives and agent nominals are identical.

However, there are three sets of verbs that have distinct forms for infinitives and agent nominals. First, there are intransitives ending in a consonant or long vowel (infinitives taking *-n*, agent nominals taking *-VV* or *-nVV*). Second, there are the intransitives ending in *-nVn* (infinitives simply dropping the final *n*, agent nominals dropping the final *n* and lengthening the vowel). Finally,

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there are some infinitives and agent nominals that take -*nVV*, where the regular rule would give -*VV*; in some of these cases, the agent nominal will occur with the 'irregular' form -*nVV* while its corresponding infinitive is regular. An example of each of these three contrasting sets is given below:

(603) BASE		INFINITIVE	AGENT NOMINAL
miɬpa:-	'sing'	miɬpa:n	miɬpa:na:
'aqlaqawa:nan	'dream'	'aqlaqawa:n	'aqlaqawa:na:
qaɬun	'cry'	qaɬu:	qaɬunu:

A further feature that the infinitive shares with nominals is the plural suffix. As will be shown in chapter 4, the standard plural marking for nouns is -*(V)n*, a marking for number that is only found on nominals and infinitives. Similarly, when the subject is plural a transitive infinitive must have the plural suffix -*n*, as well as the standard markers for plurality on the tensed verb:

(604) t'awn-a:-w ča'a:-na:-n laqč'iti
be-IMPF-1PL wash-INF-PL clothes
'We're washing clothes.'

(605) t'i-p'in-a:-t'ik st'a:-na:-n ha:tanti
TI-go(2SUB)-IMPF-2PLSUB sell-INF-PL fish
'Are you(pl.) going on to sell fish?'

(606) ta-min-ta aɬaw-na:-n
3SUB,PL-come-PF steal-INF-PL
'They're coming to steal (it).'

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However, when the infinitive is intransitive, the the plural regularly ends in *-(n)in*, resulting in a clear morphological contrast between the intransitive and transitive infinitives. Thus compare the intransitive infinitives in ((a) examples below) with their corresponing transitives ((b) examples):

(607) a. ta-t'ahun to:qsla:-n-in
3SUB,PL-be(IMPF) get.on.surface-INF-PL
'They are getting on the surface.'

b. ta-t'ahun mo:qsla:-n-an
3SUB,PL-be(IMPF) put.on.surface-INF-PL
'They are putting Y on the surface.'

(608) a. ti-ta-'an tapa:ca:-n-in
TI-3SUB,PL-go(IMPF) work-INF-PL
'They are going on to work.'

b. ti-ta-'an ma:pa:ca:-n-a:n
TI-3SUB,PL-go(IMPF) use-INF-PL
'They are going to use Y.'

There remains one further detail regarding infinitive constructions: specifying on which verb (the tensed verb or the infinitive) the various verbal affixes occur. This has already been alluded to in 2.3, where the layering of the verbal affixes is presented in a manner that reflects their occurrence in the infinitive constructions. Thus, the following items, consisting of compounds and derivational affixes, only occur on the infinitive verb in such constructions:

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(609) modifying elements of compound verb

body part prefixes

inchoative prefix, ta-

causative prefix, ma:-

dative suffix, -ni

antipassive suffix, -nVn

At the outer extreme of the verb morphology, we find that the following inflectional affixes only occur on the tensed verbs in such constructions:

(610) subject prefixes and suffixes

first person object prefix, kin-

second person object suffix, -n

tense prefix ('iš-, 'past') and suffix (-ya:, 'fut')

aspect suffixes (-ya, 'imperfective'; and perfective)

irrealis prefix, ka-

desiderative suffix, -putun

location/direction suffixes, -ča:ɬ, 'there', -čiɬ, 'here'

The passive-reflexive suffix, *-kan*, when present, must occur on both the tensed verb and the infinitive, as will be seen below. Other affixes may occur on either or both the tensed and infinitive verbs:

third plural object prefix, lak-

valence-increasing prefixes, pu:-, ɬi:-, t'a:-

completive suffix, -'oho

repetitive suffix, -čoqo

clause-level adverbial suffixes, -pal, -'el, -'aɬi

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Having sketched out the details of infinitive formation in Tepehua, we can now move on to discuss the kinds of constructions in which infinitives occur. As can be seen from some of the examples given earlier, they primarily occur following the verbs of motion or the existential verbs, *t'ahun*, 'be', and *cuku-*, 'begin'. With verbs of motion, the infinitive expresses the purpose for which the subject went or came:

(611) k-min-ta qama:n

1-SUB-come-PF play/visit(INF)

'I've come to visit.'

(612) ka-hk-'an-a: 'i:-ni:

IRR-1SUB-go-FUT get-INF

'I will go to get it.'

With the existential verbs, however, the entire construction has an aspectual function and is what I have called the progressive, (following the fact that the form with t'ahun is standardly given as the translation equivalent of the Spanish progresivo; see 2.4.1.4):

(613) t'ahun miɬpa:-n

is(IMPF) sing-INF

'X is singing.'

(614) cuk'u-y sqoɬi-: tehkan qasmat-'a ni c'o'o-n

begin-IMPF whistle-INF when hear-IMPF ART bird-PL

'X starts to whistle when s/he hears the birds.'

There is evidence that the motion verb+infinitive construction (MVI) may be of a different sort than the

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existential+infinitive construction (EI). Specifically, some data suggest the EI construction is an example of what is called 'nuclear cosubordination' (two verbs sharing the same macroroles and nuclear operators) in RRG, while the MVI construction is an example of core juncture (independent nuclei with independent sets of macroroles, sharing one syntactic argument).

In the discussion in Foley and Van Valin (268ff.) of the 'interclausal semantic relations hierarchy', the following claim is made:

> given the inventory of syntactic clause-linkage categories in a language, it will always be the case that the strongest semantic relations will be expressed in the most tightly linked syntactic configurations found in the language, the weaker relations in the less tightly linked constructions.

The EI construction involves a stronger semantic relation: a modality relationship between the verbs, here specifying an aspectual distinction, namely progressive. The MVI construction, on the other hand, specifies a relation of sequential action (and purpose) between the verb of motion and the infinitive. Thus, the prediction within an RRG framework is that the EI construction should be a tighter syntactic configuration than the MVI construction. There is, in fact, some evidence that this may be the case.

First, the infinitive (whether in EI or MVI constructions) may never be independently specified for aspect or bear a directional/locational suffix. However, the effect of each of these when they occur on the tensed verb is different. The infinitive, of course, besides not being

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marked for aspect, never receives a distinct aspectual reading: the EI construction is itself an aspect type (progressive) and in the MVI construction the infinitive is simply temporally understood as sequential to the tensed verb (regardless of the tense or aspect marked there). However, (as might be expected) the directional/locational suffix receives a somewhat different reading in the EI construction as opposed to the MVI construction. In the EI construction, it specifies the location of the activity referred to by the entire construction; in the latter, it only specifies the location of the activity referred by the tensed verb. That is, in the EI the directional/locational suffix has scope over the entire construction whereas in the MVI construction it only has scope over the tensed verb on which it occurs. Within an RRG framework, this distinction suggests that the EI construction is an example of 'nuclear cosubordination' (two nuclei sharing a nuclear operator as well as a single argument structure) while, the MVI construction is an example of 'looser' clause linkage:

(615) t'awn-a:-ča:l tapa:ca:-n [EI construction]
is-IMPF-there work-INF
'X is working over there.'

(616) min-ta:-ča:l tapa:ca:-n [MVI construction]
come-PF-there work-INF
'Over there X is coming to work (here).'

Second, there is a form in Tepehua that is apparently semantically identical to the EI (the progressive)

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construction: the left-headed verb compound with *t'ahun* or *cuk'u-* as the modifying member. Thus the (a) and (b) examples below are equivalent:

(617)	a. t'ahun miɬpa:-n is(IMPF) sing-INF 'X is singing.'	b. miɬpa:-t'ahun sing-is-(IMPF) 'X is singing.'
(618)	a. cak'u-y tapa:ca:-n begin-IMPF work-INF 'X begins to work.'	b. tapa:ca:-cuk'u-y work-begin-IMPF 'X begins to work.'

Though the compound constructions (b) appear to be more common in the Huehuetla dialect area, both types of construction are used in all three dialects. The EI constructions (a) look very much like a calque from the Spanish *progresivo* (*estar V-ndo*) and the fact that such constructions are apparently absent from Totonac might support such an analysis. However, if this is true it would suggest it developed independently in all three dialect areas since it seems clear that they separated before Spanish contact. And it should be mentioned that the comparison with Totonac isn't that compelling an argument for the calque analysis since Totonac doesn't even use the (b) forms to mark progressive aspect. The progressive in Totonac is marked by a construction like the left-headed compounds in Tepehua, but the modifying member is the verb -*ma:*, 'lie, be horizontal'.

The main point to note here, however, is the fact that the (b) constructions are clearly examples nuclear juncture;

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and their identity with the (a) constructions suggest the latter are also instances of nuclear juncture.

There is no left-headed verb compound corresponding to the MVI like that which parallels the EI in (617) and (618).

Third, the argument that the EI constructions are instances of nuclear juncture is supported by their passive-reflexive forms. Recall from chapter 1 that in instances of nuclear juncture the two verbs share the same argument structure. And recall (from 2.3.1.2) that the passive-reflexive suffix marks the highest-ranking macrorole as unspecified, the next highest-ranking participant then occurring as subject of the construction.

Before going into the syntactic issues involved in the passive-reflexive forms of these constructions I should comment on the morphology. As noted at the beginning of this section, the infinitives share a number of morphological features with standard deverbal nominals, and specifically with the agent nominal. The forms that occur in the same position in the passive-reflexive form of these constructions are clearly the same as the passive deverbal nominals. Not only do they undergo final nasal truncation (as discussed above for active infinitives and applying in the derivation of all deverbal nominals) but, like all nouns, they may (optionally) be marked as possessed:[3]

[3] Note that though the infinitive is formally identical to a nominal, we cannot treat it as a nominal argument of the tensed verb. The tensed verb stem is intransitive and it has the passive-reflexive suffix, -kan, making its one argument syntactically unavailable; i.e. it should have no direct syntactic argument. (If the nominal were the goal we would expect the locative preposition, laka:- to be present.) Clearly, we are

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(619) 'an-ka-ɬ 'iṡ-'i:-ka

go-PASS-PFV 3POSS-get-PASS(NOM)

'Its getting was gone to.' ('Someone went to get it.')

Now when the passive-reflexive occurs with the infinitive construction (EI or MVI), the suffix must occur not only on the infinitive but also on the tensed verb:

(620) t'awn-kan-a:-w ma:su:-ni-ka ta:s

be-PASS-IMPF-1PLSUB show-DAT-PASS(NOM) how

ka-mak'a:-t'i

IRR-do/make-2SUB(PFV)

'We're being shown how to do/make it.'

(621) kin-t'a:-lapana:ki t'an lakṡtukla-ɬ wa: ni:man

1POSS-COM-person when marry-PFV FOC immed.

cuk'u-ka-ɬ maqanaq-ka porke 'iṡ-ho'ati la: ta:p'a:-y

begin-PASS-PFV beat-PASS because 3POSS-man very drunk

'My sister, when she got married, right away began to be beaten because her husband would really get drunk.'

Recall that when the stem of the tensed verb is intransitive and bears the passive-reflexive suffix, it then has no syntactic argument (2.3.1.2; see also preceding fn.). However, in each example above, the passive-reflexive suffix occurs on an intransitive verb, yet it has a syntactic argument. This is especially evident in (620), which has an overt subject marker,-w, 'first person plural'. These forms can best be accounted for if we assume that the two verbs

---

dealing here with a special complex construction and not simply a verb and its nominal argument.

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together form one complex nucleus (just as in the compounds in (617) and (618), above) with a single argument structure. As such, they are transitive and the passive-reflexive suffix is marked on both elements of the costruction.

When we turn to the occurence of the the MVI construction, while it isn't completely clear what the most appropriate analysis would be, it is clear that it is not as 'tight' a linkage as we found in the EI construction above. The construction appears to perfectly match the passive-reflexive of the EI construction when the understood subject of the infinitive is third person singular (unmarked): the missing argument of the infinitive is understood to be coreferential with the argument of the motion verb.

(622) 'an-ka-ɬ 'i:-ka ka:soli:nah
go-PASS-PFV get-PASS(NOM) gasoline
'Gasoline was gone to be gotten.' ('Someone went to get gasoline.')

(623) min-kan-ta laqc'in-ka ni č'aqa:
come-PASS-PF see-PASS(NOM) ART house
'The house is being come to to be seen.' ('Someone is coming to see the house.')

Here the actor of the motion verb is also actor of the infinitive and is syntactically absent. When the undergoer of the infinitive is human/animate, however, the picture is somewhat more complex (as we can see more clearly with third person plural). Specifically, it is clear that the two verbs do not map onto a single set of macroroles as in the EI

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construction. Examples such as the following show that the actor of the motion verb can be the undergoer of the infinitive:

(1)a. ta-'an-ka-ɬ ha-'i:-ka ha-c'i'i-n

3PLSUB-go-PASS-PFV 3PL-get/buy-PASS(NOM) HA-girl-PL

'Girls went to be bought/married.'

b. ha:-'an-ka-ɬ 'iṡ-i:-k=k'an ha-c'i'i-n

PL-go-PASS-PFV 3POSS-get/buy-PASS(NOM)=PLPOSS HA-girl-PL

'Girls went to be bought/married.'

My Tepehua consultants tell me the form in (b) is better although both are considered acceptable clauses. What is important to note here is that the actor of the motion verb is the undergoer (and subject) of the passive infinitive. If these were entirely parallel to the forms in (620) and (621), we would expect the actor of the motion verb and that of the infinitive to be one and the same, rendering a translation such as 'Someone(s) went to buy/marry the girls.'

This distinction between the actor of the motion verb and the actor of the infinitive is even more obvious when we observe secondperson forms of passive MVI constructions:

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(624) k'a:tača ta:s čaway p'in-k'a

year.ago like now go(2SUB)-PASS(2SUB)

min-k'uču:-ka to'anta

2POSS-heal-PASS(NOM) below

'A year ago now you went below (to lowlands) to be healed.'

Here the actor of the motion verb is clearly second person, as shown by the translation; moreover, the motion verb displays the suppletive second person subject form for *'an*, 'go'.

In summary, the EI and MVI constructions demonstrate a significant contrast. The EI construction manifests the characteristics of having a single set of actor-undergoer macroroles, thus exemplifying nuclear juncture (just like its semantically equivalent construction, the left-headed compound with *t'ahun* or *cuk'u-* as the modifying element). The MVI construction, on the other hand, involves a distinct set of actor-undergoer macroroles, though the the motion verb and the infinitive must share the subject position, a characteristic feature of core juncture.

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2.6 Adverbs

Talmy 1985 discusses the lexicalization of conceptual notions cross-linguistically, especially focussing on how notions regarding the 'figure' and 'ground', motion, manner, cause and 'path' are lexically distributed in the verb complex. He discusses particular patterns found in different languages regarding which concepts are 'conflated' in the semantics of the verb root and which concepts occur as 'satellites' of the verb. As was noted in 2.1.1, most of the stage-level statives specify the orientation of the Figure vis-a-vis the Ground, exemplifying, in Talmy's terms, the conflation of location with site. Similarly, the many non-stative verbs derived from these statives conflate motion with path, as in the following examples in which the orientation is specified by the verb and not by the preposition:

(625) 'oqsla:-y laka: me:sah

be.on.surface-IMPF PREP table

'X is on the table'

(626) ta-'o:qsla:-y laka: me:sah

ACH-be.on.surface-IMPF PREP table

'X is getting on the table.'

As was discussed in 2.3.1, the valence-increasing affixes largely serve to characterize the path of the Figure in relation to the Ground, specifically, *-ni* marking 'bounded path', *ɬi:-*, 'direction', and *pu:-*, 'route'.

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Regarding the other conceptual categories mentioned above, some verb roots specify the shape of the figure as well as motion and/or path:

(627) štoqo-y 'X pierces Y'(X is small, pointed object,e.g.,
pierce-IMPF a needle or thorn)
cah-ya 'X spears Y' (X is long, narrow object, e.g.,
spear-IMPF an arrow or spear)
łtoqo-y 'X stabs Y'(X is medium length, pointed object,
stab-IMPF e.g., knife or machete)

And, as noted in 2.3.1.3, the figure is often specified by a body-part prefix:

(628) č'an-tanu:-y
foot-enter-IMPF
'X puts foot into Y'

'Cause', in Talmy's sense of an event-category that is at times conflated with motion (e.g., English, *The paper blew off the table*, specifying air motion as the causing event), does not apparently occur as a category conflated with motion in the verb root. It may, however, be expressed by means of the modifying member of a right-headed verb-verb compound (see chapter 2 for other examples):

(629) ka-sun+ła:'an-a:
IRR-blow-take-FUT
'It will blow X away.'

(630) k-sun+ma:'a-ł
1SUB-blow+discard-PFV
'I blew it away.'

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The position immediately preceding the verb root, besides potentially being filled by other verbs (the verb-verb compounds above), or body-part prefixes, is frequently filled by morphemes that occur only as stem-formatives, each with a few specified verb roots:

(631) a. ma:ći-štaq-ya 'X loans Y'
-give-IMPF

b. ma:ci-sk'in 'X borrows Y'
-request(IMPF)

c. pu:-sk'in 'X begs'
request(IMPF)

(632) a. laq-pus-a 'X gets through' (e.g., cow through fence, water thru leaking roof, etc.)
-get.through-IMPF

b. pa:-pus-a 'X passes through'(e.g., bullet through rabbit, vision through window, etc.)
-get.through-IMPF

The morphemes that precede the verb roots above don't occur on other verbs and, hence, are virtually impossible to gloss. A list of such verbs with identifiable roots and unidentifiable stem-forming morphemes would include a large portion of the Tepehua lexicon; and since any systematic treatment of such morphemes doesn't seem possible I won't consider them further here. One form-class that can appear in the same position, however, will be treated in this section: the dependent adverbs.

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In this section I will discuss these and other Tepehua adverbs: those forms that most often specify the manner of motion and frequently specify details regarding the Figure. The discussion will be organized along a parameter that plays an important role in RRG, namely, the layered structure of the clause (see chapter 1). We have already seen how adverbial morphemes that occur within the verb are ordered in a fashion that reflects their relative scope vis-a-vis the core and the clause. Similarly, the adverbs that occur as syntactically independent words can be classified as core- and clause-level adverbs. Furthermore, there are two types of core-level adverbs: dependent and independent.

Such a classification has both formal and semantic support. Thus the dependent adverbs are distinctive syntactically and phonologically: they must occur immediately preceding the verb; they are phonologically unstressed and cliticize to the following verb; they are fully reduplicated when occurring with verbs referring to some sort of cyclic activity; and they often display a unique ideophonic resonance which I will discuss below.

The independent core-level adverbs, while frequently occurring immediately preceding the verb include some forms that may occur post-verbally. Perhaps more significantly, this class of adverbs overlaps with adjectives; i.e., it largely consists of those words that may function as either adverbs or adjectives.

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Finally, the class of clause-level adverbs, modifying the clause as a whole, consists almost entirely of those adverbs that locate the entire event temporally or spatially in relation to the time and place of the speech event. These adverbs, unlike the two classes above, most frequently do not occur in the position immediately preceding the verb. That is, if there is some clause-internal constituent preceding the verb, a peripheral adverb will most naturally precede that constituent or occur clause-finally rather than immediately precede the verb.

These characteristics distinguishing the three classes of Tepehua adverbs will be explored in the following sections.

2.6.1 Dependent core-level adverbs

Tepehua displays a rather remarkably large class of forms that specify features of the Figure and/or the manner of the motion or activity. These are forms that are distinctively adverbs (the only known three exceptions being adjectives of taste occurring as adverbs of smell; see below) and are very restricted in their distribution, occurring immediately preceding the inflected verb or, in some cases, as part of the verb, inside the inflection (in the latter instance producing a complex stem):

(633) a. ṡwilili ta-ċuk'u-y

around 3SUB,PL-cut-IMPF

'They cut around it.' or 'They cut it in circular manner.'

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b. ta-šwilili-čuk'u-y

3SUB,PL-around-cut-IMPF

'They cut around it.' or 'The cut it in circular manner.'

This class of adverbs is the topic of this section.

First, it should be made clear that adverbs of this class that include some feature specification regarding the Figure are distinct from adjectives that sometimes occur as secondary predicates. Such adjectives, though they often occur immediately preceding the verb, may also follow the verb; and, of course, they have other distributional characteristics of adjectives (occurring as main predicates and as modifiers of nouns within the NP; see the next chapter). These adverbs, however, share neither of these characteristics.

(634) a. laqpa-'asas tapa:ca:-y or tapa:ca:-y laqpa-'asas

head-bare work-IMPF

'X works bare-headed.'

b. kim-pay wa: laqpa-'asas

1POSS-father FOC head-bare

'My father is bare-headed/bald.'

c. min-ta-ča ni laqpa-'asas lapana:ki

come-PF-alrdy ART head-bare person

'The bare-headed person is coming.'

(635) 'elih ya:ʔ

thin stand(IMPF)

'X stands (there) thinly.'

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Thus while both the adjective in (657), functioning as a secondary predicate, and the adverb in (658) specify some feature of the subject, only the adjective can occur post-verbally and as in attributive or predicative positions.

There is a further difference: only the adverb can display the reduplication and ideophonic resonance characteristic of dependent core-level adverbs. All adverbs of this class that specify the type of motion occur fully reduplicated when modifying a verb that specifies some cylcic motion:

(636) 'elih 'elih 'an-ta
go-PF
'X is going thinly.'

(637) pon pon min-ta
come-PF
'X is coming roundly/heavily.'

What I have been calling 'ideophonic resonance' is an expressive feature that is unique to dependent adverbs. To emphasize the manner (or figure, etc.) designated by the adverb the speaker pronounces it with an abrupt, forceful onset and an extreme lengthening of the final vowel or consonant. When pronounced so emphatically, the preposition tus, 'until', frequently precedes the adverb, as in the following examples:

(638) a. tus saqqq ta-tawla-ɨ
3SUB,PL-sit-PFV
'They were amazed/stunned (sitting down).'

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b. tus swakk swakk 'unila-y

blow(wind)-IMPF

'The wind is really blowing hard.'

(639) a. layyy a-ɬ

go-PFV

'He went real slowly.'

b. wa:li:'iy stuyyy taštu-y

just exit-IMPF

'The water is just barely coming out.'

2.6.1.1 **Adverbs of smell**

One sub-class of the dependent adverbs are those that classify smell. The non-specific form for smell (usually with the reading of 'smell bad') is akamin:

(640) la: akamin mi-sapa:tos

very smell(IMPF) 2POSS-shoes

'Your shoes smell/stink.'

However, when occurring with an adverb specifying the kind of ísmell, the initial a ([?a]) is dropped in the Tlachichilco dialect (though retained in Huehuetla):

(641) s'eh kamin

fragrant smell(IMPF)

'It smells very nice.'

Before listing some of these forms, it should be pointed out that they can be arranged according to their phonological shape. Specifically, noting that Totonac-Tepehua generally has word groups that display alternations between s, š, and ʔ and between k and q (see Appendix), we

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can arrange the adverbs of smell in groups displaying such an alternation. (It must be kept in mind that sequences such as *s'e* and *ṡ'e* in the Tlachichilco dialect come from *sq'i* and *ṡq'i*, respectively; again, see Appendix) Along with the form, I list in parentheses examples of items that characteristically have such a smell as reported to me by my Tepehua consultants:

(642) haks / haqɬ

haks kamin (beef, goat meat, mutton, cow milk)

haql kamin (unsalted raw meat sitting in the sun)

(643) s'eh / ṡ'eh / ɬk'ih / ṡk'ih

s'eh kamin (fragrant flowers and food, cooking coffee, bath soap)

ṡ'eh kamin (burning grass or fields)

ɬk'ih kamin (newly-fallen rain, roasting coffee, cracklings, fried or toasted food)

ṡk'ih kamin (cooked corn kernels with a lot of lime)

(644) sk'uk'uk / ṡkukuk / s'o'oq

sk'uk'uk kamin (lime or cement)

ṡkukuk kamin (tobacco) (perhaps < ukṡku:ti, 'tobacco')

s'o'oq kamin (salty meat) (probably < s'o'o, 'salty')

(645) sqaqaq / ɬkakak

sqaqaq kamin (oil of orange peel)

ɬkakak kamin (chile, ginger, sugar-cane alcohol, garlic, onion, Vapo-Rub) (< ɬkaka, 'spicy')

Other adverbs of smell have no attested phonologically-related counterparts:

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(646) moq kamin (pork and chicken or turkey eggs)

'alus kamin (fish)

čiš kamin (urine, sweat)

p'uks kamin (excrement and rotten meat)

mič'akš kamin (moldy beans)

miyoqs kamin (beans with green leafy vegetable (raw or cooked)

t'uɬ kamin (armadillo, blood)

mis kamin (roach, javalin meat, sweated underarms, pork from an uncastrated hog, hog while mating)

Besides the nineteen adverbs of smell listed above, the five adjectives specifying taste may also occur with kamin to refer to smell. Two of these occur in a slightly altered form and have already been given: *ɬkak*, 'spicy', and *s'o'oq*, 'salty'. The other three follow:

(647) saqsi kamin 'it smells sweet'

sun kamin 'it smells bitter'

skah kamin 'it smells sour'

Finally, there are a few instances in which compounds of forms above may occur to specify smell:

(648) š'eh+puks kamin (burning rubber)

ɬkaka:+saqsi kamin (honey mixed with sugar-cane alcohol)

2.6.1.2 Adverbs of sound

A number of dependent core-level adverbs in Tepehua specify type of sound. Some of these adverbs may be somewhat less conventionalized, i.e., there is a fair amount

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of variation among speakers for with some forms. In fact, this is the position in which the imitative sounds may occur. The following examples occur with *makat'ahun*, 'make noise' or *nahun*, 'say'

(649) ċalan ċalan makat'ahun (ringing of small bell)

ta:n ta:n makat'ahun (ringing of large bell)

kach'uch'u nahun (rattling against teeth)

ṡlak'ati ṡlak'ati makat'ahun (sound of typewriter)

2.6.1.3 Adverbs of motion

A large number of the dependent adverbs in Tepehua specify type of motion. Often correlated along with the motion is the type or shape of figure, since certain kinds of motion are possible only given a certain type of figure. Thus the following adverbs only serve to specify the motion of liquids:

(650) snuk snuk taṡtu-y

go.out-IMPF

'it comes repeatedly out of a small channel under pressure.'

(as liquid being squeezed out of a tube)

(651) snuk'uk'u tanu-y

go.in-IMPF

'it goes in through a small channel under pressure'

(as medicine being injected; or water going into the end of a pen)

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(652) čuł čuł laqpus-a

pass.thru-IMPF

'it drips repeatedly' (as water from a roof)

cuł cuł taštu-y

go.out-IMPF

'it drips in small drops repeatedly'

(as water dripping from a tube)

(653) štah štah pa:tahu:-y

drip-IMPF

'it drips slowly, repeatedly'

(as water dripping from a branch or roof or dripping of intravenous solution)

(654) pis pis tama:-y ni ška:n

lie.down-IMPF ART water

'The rain falls a little, stops, then starts again.'

The following specify the motion of air or wind:

(655) tus spuy ki-sunu-y 'un

until 1OBJ-blow-IMPF wind

'The breeze is gently blowing on me.'

(656) tus swak swak 'unila-y

until wind.blow-IMPF

'The wind is repeatedly blowing hard.'

Other dependent core-level adverbs that specify manner or type of motion don't specify the material of the figure (e.g., liquid or air) as do those above, but simply the shape of the figure:

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(657) lin lin mahku+min-ta

hand/arm.wave+come-PF

'X comes swinging arms.'

(658) ɬpuhuhu mahku+min-ta

hand/arm.wave+come-PF

'X comes carrying something with arms in front'

(659) a. 'elih 'elih 'an

go(IMPF)

'X goes skinnily (i.e., where X is tall & skinny)'

b. 'elih ya:ɬ ni k'iw

stand(IMPF) ART tree

'The tree is standing bare (leafless).

(660) ɬoqoti taya:-y

stand.up-IMPF

'X stands, bony' (lhoqoti < halhukuti, 'bone')

(661) panpah panpah min-ta

come-PF

'X is coming heavily (very fat)'

(662) a. pututuh 'an (< ɬpututu, 'spherical')

go(IMPF)

'X rolls (where X is a spherical object)

b. pu:toq pu:toq ɬtanan

walk(IMPF)

'X walks (where X is a short fat person)

(663) a. p'ilili 'an (< pilil, 'cylindrical')

go(IMPF)

'X rolls along (where X is cylindrical)

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b. p'ililiy ta-'an ni lapana:k-ni

3SUB,PL-go ART person-PL

'The people go rolling (ref. to gathering of an angry crowd).'

(664) a. štay 'an (< štiyay, 'circular')

go(IMPF)

'X goes around (e.g., wheels on a vehicle)'

b. ka-'a-u štay štay ka-tinin-a-w

IRR-go-1PL IRR-dance-FUT-1PL

'Let's go, we'll dance twirling in circles.'

(665) ni č'u:n va: pa'a'a łtiłinin

ART vulture FOC fly(IMPF)

'The vulture flies with wings outstretched.'

pa'a'a mu:ko:ntaya:-y

leave-stand-IMPF

'X is standing with arms outstretched.

(666) a. snaw snaw la-y

do-IMPF

'A long flexible vertical object waves (e.g. tree in wind)'

b. šiw šiw la-y

do-IMPF

'Along horizontal object waves(e.g.,treebranch)'

c. łnaw łnaw lakpa-hun

face-say(IMPF)

'X nods (where X is long flexible object, such as neck of an egret or heron)'

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The last example, (666c), is one example of many where a dependent core-level adverb occurs with the verb *lakpahun*, which could be translated as 'make a face,' 'nod,' or 'have a facial expression'. These form a subset of adverbs that can refer to facial configurations and generally occur with either *lakpahun* or *laka:wa:nan*, 'look', *kiɬun*, 'move/signal with mouth', or other verbs referring to configuration of some part of the face. Some examples follow:

(667) sp'iy lakpahun 'has/makes small face with big eyes'

ṡtay lakpahun 'has/makes a round face' (see above)

skututuh laka:wa:nan 'has small face with small eyes'

p'awn lakpahun 'has/makes face with fat cheeks'

ɬqotutuh laka:wa:nan 'makes eyes big'

haɬ laka:wa:nan 'glance, look quickly'

ɬp'e lakpahun 'has big eyes'

ṡwe kiɬun 'mouth slightly opened'

ɬṡa or ṡwa kilhun 'mouth opened wide'

kaċiċih kiɬun 'baring teeth'

ṡmirriri kiɬun 'mouth open, lips puckered'

mu:ċ'uċ'u kiɬun 'mouth closed, lips puckered'

t'uy kiɬun 'lips turned to side'

t'aw lakpahun 'lazy, sleepy look'

lin lakpahun 'glazed look (as when drunk)'

tatatah lakpahun 'sleepy look (when drunk) (< ltata-y 'sleep')

sniy laka:wa:nan 'staring blankly'

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č'aw kiłun 'having lots of whiskers around mouth'
(< č'ahu-y, 'grow fur/body hair)

t'aw kankapahun 'look of getting angry' (kanka- 'nose')

łte'e'e 'akatahun 'makes/has prominent ears' (horse or burro stretching ears forward, or man with hair cut close around ears) ('akata-, 'ear')

łtuy 'akpišahun 'stretches neck (as when sore)' ('akpiša- 'back of neck')

staw pištuhun 'neck stretched out (chin up)' (pištu:-, 'front of neck')

While many of the adverbs above are only used to refer to facial expressions others have a more general application. Thus the last example refers to stretching in general:

(668) staw k-čušu-y
1SUB-stretch-IMPF
'I'm stretching it out.' (rubber band, etc.)

staw 'an-ta
go-PF
'It goes stretching out (e.g., used re track across sky left by jet or the trail of a rocket)

Finally, other dependent adverbs specify intensity or rate without any reference to features of the Figure. There are four adverbs that can be translated as 'very'; of these, *ła:* (*na:* in Huehuetla) is by far the most common. Three of these are

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(669) la: la: ki-maqama:-y wa:kaš
very 1OBJ-please-IMPF meat
'I really like meat.'

(670) ča:puh wa: ča:puh 'ay lapana:ki
FOC very big person
'X is a very big person.'

(671) kos kos ška-y kim-pahan
very hurt-IMPF 1POSS-stomach
'My stomach really hurts.'

These three forms don't manifest the reduplication found with other dependent adverbs. However, the other common form translated as 'very', *'ayah*, is related to *'ay*, 'big', and may occur reduplicated when occurring with a verb specifying cyclic motion (and sometimes implies the subject is large):

(672) a. ayah ayah łtanan
walk(IMPF)
'X really walks (i.e., walks fast, especially when referring to a large person)'

b. ayah tapa:ca:-y
work-IMPF
'X works really hard (with no reference to size of Figure)

Others refer to the rate or speed of the action, and sometimes the care with which the action is done (all adverbs are listed with the 'dummy' verb *la-y*, 'do'):

(673) čay lay 'X does it slowly' (work, walk, talk, etc.)
p'ay lay 'X does it calmly, with care'

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2.6.2. Independent core-level adverbs

The independent core-level adverbs form a much smaller class than the dependent adverbs discussed above. Unlike the clause adverbs, they most often occur immediately preceding the verb. However, their distribution is significantly different from the dependent adverbs explored above: like standard independent words they may occur as single-word utterances; and, when occurring within a clause, they may occur in positions other than that immediately preceding the verb:

(674) 'oši tapa:ca:-y *or* tapa:ca:-y 'oši
good work-IMPF
'X works well.'

(675) a. laksnih ɬtanan
slowly/carefully walk(IMPF
'X walks slowly' or 'X walks carefully'

b. ɬtanan laksnih
walk(IMPF) slowly/carefully
'X walks carefully.'

Other examples of independent core-level adverbs are negatives and forms that quantify the action, specifying its frequency or number of occurrences, such as the following example:

(676) ɬi:ɬiy miɬpa:-y *or* miɬpa:-y ɬi:ɬiy
daily sing-IMPF
'X sings daily.'

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It should be noted in examples such as this one that though the adverb involves a temporal notion, it is not an example of what I'm calling temporal adverbs. As mentioned earlier and as will be seen below, temporal adverbs locate the time of the state or event in relation to the time of speaking. In this example, *ɬi:ɬiy* specifies not the time but the frequency of the action. Other examples include numerals with the classifier prefix, *'aq-*, 'times'. Though numerals standardly pattern as adjectives (modifying nouns or or occurring in their substantive use; see chapter 3), a numeral with *'aq-* regularly patterns as an adverb[1]:

(677) 'aq-t'ut'u ki-laq-mi-ɬ

CLAS-three 1OBJ-eye-come-PFV

'X came to see me three times.'

Other frequently occurring core-level adverbs include tumpah, 'apart, separately', *vas*, 'straight, correct', and the reflexive nominal, *ṡ'aman*. This last term, though manifesting inflection for possession that is typical of nouns, never occurs as an argument of a verb but rather has a distribution identical to that of other core-level adverbs (including functioning at times as a predicate adjective).

---

[1] A numeral with *'aq-* may modify a noun in only two instances. The first case is if it refers to an event, e.g., a action deverbal:

(i) 'aq-t'uy mim-paša:-ka

CLAS-two 2POSS-bathe-PASS(NOM)

Your bathing is twice. (You've been bathed twice.)

The second case is one in which it is given a different reading: '___ times as much':

(ii) 'iṡ-tapal kafe va: 'aq-t'uy-ča ta:ča ṡ-uni:-ta

3POSS-price coffee FOC CLASS-two-alrdy COMP PT-become-PF

'The price of coffee is twice what it used to be.'

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Finally, the negative *ha:ntu* and its various constructions generally function as a core-level adverbs, though, as will be seen below, it functions on the clause level as well. It regularly occurs with negative polarity items which usually correspond to argument positions within the core:[2]

(678) ha:ntu matichun ki-laqc'i-ɬ

NEG person(NEG) 1OBJ-see-PFV

'No one saw me.'

(679) ha:ntu matichun ka-k-laqc'i-ɬ

NEG person(NEG) IRR-1SUB-see-PFV

'I saw no one.'

(680) ha:ntu c'ih nahun

NEG word(NEG) say(IMPF)

'X doesn't say anything.'

(681) to'oštay-ča ti-p'in-ča ? ha:ntu 'enta:

where TI-go(2SUB,IMPF)-alrdy NEG place(NEG)

'Where are you going? Nowhere.

(682) ha:ntu tu'učun ka-k-ɬi:cuku-ɬ

NEG thing(NEG) IRR-1SUB-have-PFV

'I don't have anything.'

The occurrence of *ha:ntu* within vs. outside the focus marker *wa:* gives rise to different readings corresponding to core vs. clausal negation, respectively:

[2] The unmarked position of a negative phrase is pre-verbal, after the focus marker *wa:*, if present. This is true of all constituents that are in focus; see chapter 6.

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(683) wa: ha:ntu ka-mi-ɬ

FOC NEG IRR-come-PFV

'X didn't come.' (core-internal negation)

or 'May X not come!'(core-external negation)

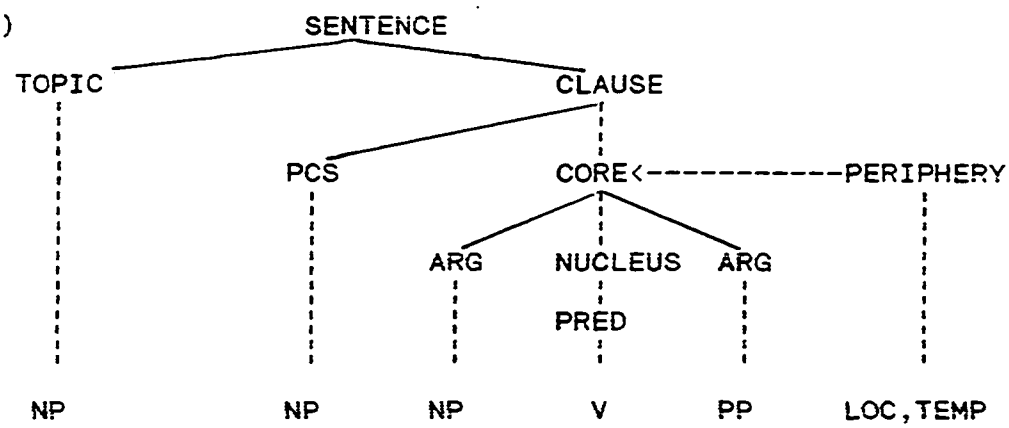
(684) ha:ntu wa: ka-mi-l

NEG FOC IRR-come-PFV

'May X not come!'

Recall the sentence structure proposed by RRG as discussed in chapter 1:

(685)



The pre-core slot, the focus position, is within the scope of the focus marker, *wa:*. Thus when a negative occus following *wa:*, it could either be core-internal or core-external, as in example (704). However, when a negative precedes *wa:*, it must have a core-external reading, as in (705).

2.6.3 Clause-level adverbs

The clause-level adverbs, like the independent core-level adverbs, form a relatively small class. Unlike the core-level adverbs, these do not normally occur in the position immediately preceding the verb, with a certain

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qualification. As noted in chapter 1 (and visible in the diagram of sentence structure given at the end of the last section), in Tepehua the peripheral constituents such as temporals and locatives may precede or follow the core. Similarly, the NPs that correspond to the core arguments, if present at all, may precede or follow the nucleus. As a result, a constituent preceding a verb may be a core constituent or a peripheral constituent. However, a peripheral constituent will not normally occur 'inside' the core. Thus note the following examples:

(686) a. ku:tanča ta-laqc'i-ɬ mi-hu:ki
yesterday 3SUB,PL-see-PFV 2POSS-horse
'They saw your horse yesterday.'

b. ku:tanča ke-s'at'a-n ta-laqts'i-ɬ mi-hu:ki
yesterday 1POSS-child-PL 3SUB,PL-see-PFV 2POSS-horse
'My children saw your horse yesterday.'

c. yu: ke-s'at'a-n ku:tanča ta-laqc'i-ɬ mi-hu:ki
ART 1POSS-child-PL yest. 3SUB,PL-see-PFV 2POSS-horse
'My children, yesterday they saw your horse.'

In (a), the peripheral adverb *ku:tanča* immediately precedes the verb. That it is, in fact, a peripheral constituent, however, is made clear in the following two sentences. The normal order (of a sentence with full NPs for both subject and object) when an NP precedes the verb appears in (b), where *ku:tanča* does not immediately precede the verb. In (c), where it does immediately precede the verb, it is still a peripheral constituent with the

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result that the NP corresponding to the subject argument must be read as topic.

Other peripheral adverbs include the following:

(687) LOCATIVES

'aniy 'here'

'anča 'there'

'awint'i 'yonder'

taɬma:n 'up high'

(688) TEMPORALS

ku:tanča 'yesterday'

ɬiy 'tommorrow'

t'u:šawnča 'day before yesterday

t'u:šawn 'day after tomorrow'

k'a:t'ača 'last year'

k'a:t'a 'next year'

ni:man / li:man 'right away'

'ap'ančiš 'in a while'

liya:ša 'a while ago'

wa:'aniyka: 'just now'

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2.6.4 -ča, 'Already, now' and -ka:, 'Still, yet'

It has been noted above that achievement verbs in the perfect aspect signify a state with characteristics similar to those of stage-level predicates. This raises the question of how to mark something like 'prior-to-past' for achievement verbs (i.e., an interpretation like the past perfect with activity verbs: an event that occurred at a point previous to the past time of reference). As mentioned earlier, the enclitic *-ča* ~ *č*, which I have been glossing 'already' or 'now,', serves this function. Note the following:

(689) 'iš-hun-i:ta hala:šimo:nu:
PT-become-PF authority
'A was a (political) authority.'

(690) 'iš-hun-i:ta-ča hala:čimo'o:nu:
PT-become-PF-already authority
'A had (already) been an authority.'

The enclitic *-ča* occurs frequently in Tepehua speech, at times with a fairly straightforward lexical meaning, at other times with a more elusive stylistic function. With the following temporals it consistently marks 'past time' or 'ago':

(691) mistahun 'one week' mistahun-ča 'last week'
k'a:t'a 'one year, next year' k'a:t'a-ča 'last year'
t'ušawn 'day after tomorrow' t'ušawn-ča 'day before yesterday'

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maqa:n'a long time; a long time from now'	maqa:n-ča 'a long time ago'
(*kutan)	kutan-ča 'yesterday'

Its use with verbs is most frequently translated by the Spanish *ya*, 'already':

(692) ni:-ɬ -ča

die-PFV-already

'A already died.'

(693) či-ɬ -ča

arrive.here-PFV-already

'A already arrived here.'

Translating it by the Spanish *ya* is also valid when it occurs with the negative, though the English 'already' must be replaced by 'anymore':

(694) ha:ntu-ča maqsk'ini-y ška:n

NEG-already need-IMPF water

'A doesn't need water anymore.'

(695) ha:ntu-ča ka-hk-'an-a: la:'aška:n

NEG-already IRR-1SUB-go-FUT river

'I won't go to the river anymore.'

There is another enclitic that occurs on Tepehua predicates and temporals that has a meaning somewhat complementary to that of *-ca*. This is *-ka:*, often translated by the Spanish *todavi'a*, 'still' or 'yet'. This is usually its interpretation with predicates having present or future time reference:

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(696) min-ta-ka:

come-PF-yet

'A is still coming.'

(697) ka-min-a:-ka:

IRR-come-FUT-yet

'A will yet come/come soon.'

However, with temporals or predicates which have a past time reference, it is best translated by the Spanish *apenas*, 'just':

(698) či-ɬ -ka:

arrive.here-PFV-yet

'A just got here.'

(699) k-way-ɬ -ka:

1SUB-eat-PFV-yet

'I just ate.'

(700) 'aqtay-ni-ɬ -ka:

begin-DAT-PFV-yet

'It just began.'

When *-ka:* occurs with the negative the resulting meaning is 'not yet' (Spanish: *todavía no*). In such constructions the verb must be in the imperfective aspect or future tense:

(701) ha:ntu-ka: min (*min-ta) (*mi-ɬ)

NEG-yet come(IMPF)

'A hasn't come yet.'

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(702) ha:ntu-ka: ka-laqc'in-e-'i

NEG-already IRR-see-FUT-2SUB,FUT

'You won't see it yet.'

Like *-ča*, *-ka:* can occur on temporal adverbs:

(703) kutan-ka: 'aqtay-ni-ł

yesterday-yet begin-DAT-PFV

'It started just yesterday.'

Both *-ca* and *-ka:* may occur on predicate nominals:

(704) šapay-ča

man-already

'He's a grown/old man now.'

(705) c'ał -ka:

boy-yet

'He's still a boy.'

Now the challenge is to give a unified semantic account for *-ca* and *-ka:*. A graphic representation such as that below provides a beginning:

(706) predicate-*ka:* ---> predicate-*ča*

Here the boundary is meant to mark a transition: with verbs and predicate nominals, it is usually the point of completion of the action or state; with negatives, it is the point at which the negation of the predicate begins (for *-ča*) or where it ends (for *-ka:*). To mark a predicate as temporally 'this side' of the boundary, *-ka:* is used; to mark it as 'past' the boundary, *-ča* is used. In many

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instances, either clitic is acceptable, depending on whether the speaker wants to emphasize recency or a lapse of a significant amount of time (thus, compare (693) and (698), above, suggesting with past reference the boundary may mark a point of 'recency', *-ka:* marking 'still recent'.)

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3. Adjectives and adjective phrases

As noted in the last section of the preceding chapter, for the most part, adjectives and adverbs are distinct classes in Tepehua. Thus, only (dependent) adverbs display reduplication and ideophonic resonance. Only adjectives can be used predicatively or to modify a noun and thus adjectives -- but not adverbs -- may be inflected to manifest agreement with the noun. Though the classes of adjectives and adverbs consist, for the most part, of distinct lexical items, there is some overlap. As noted earlier, this overlap only involves adjectives that can function as core-level adverbs, such as the following:

(1) 'oši 'good, well'
lakalaksnih 'patient, patiently'
was 'right, straight'
'ušamaktawn 'content, contentedly'
c'uniy 'a little'
lakc'iniy 'in little bits'
c'a:lti, c'a:yl 'easy, fast'
tumpah 'separate, apart'
p'a:sni, p'a:ysni 'strong, hard'
tumpah 'apart, separate(ly)'
š'aman(k'an) 'by his/her/itself (themselves)'
ke'eman(k'an) 'by myself (ourselves)'
me'eman(k'an) 'by yourself (yourselves)'
'aq-NUMERAL 'number of times'
č'an-tawn 'together, in agreement'

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These forms may function as either adjectives or core-level adverbs. The two last examples are apparently the only instances of numeral+classifier that can serve as an adverb as well as in an adjectival position. The numerals, as might be expected, while sharing basic characteristics of adjectives are somewhat unique, as will be seen below.

3.1 Numerals and classifiers

As is standard in Mesoamerica, Totonac-Tepehua has a mixed base ten and base twenty numbering system. Thus the numerals in Tepehua are as follows:

(2) 1. tawn (Huehuetla, Pisa Flores: tam)

2. t'uy

3. t'ut'u

4. t'at'i

5. kis

6. čašan

7. tuhun

8. cihin

9. naha:ci

10. kaw

11. kawtawn

12. kawt'uy

13. kawt'ut'u

14. kawt'at'i

15. kawkis

16. kawčašan

17. kawtuhun

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18. kawcihin

19. kawnaha:ci

20. pu:šawn (Huehuetla, Pisa Flores: pu:šam)

21. pu:šawntawn

22. pu:šawnt'uy

30. pu:šawnkaw

31. pu:šawnkawtawn

40. t'uypušawn

Only the names for numbers twenty and below are still in use, though some adult speakers can produce forms for numerals up to one hundred. (As far as I am aware, no one knows the term for 400, the next point at which a new numeral term should appear.) However, the only Tepehua numerals that are at all common are 1-10, 12 and 20,[1] Spanish forms being more common for other numbers. Some children that are otherwise fluent in Tepehua don't even know all these, though numbers one-five are apparently used by all.

As a general rule, numerals in Tepehua appear with a prefix that specifies the class to which the object referred to by the NP belongs. At the risk of stating the obvious, I should note that this is not a matter of grammatical

1 The reason that 12 should have some significance is that the system of counting *reales* has continued into recent years for counting money. Until recently, two *reales* was still equivalent 25 centavos; now some speakers use the same figuring to refer to larger amounts, especially *laq-t'at'i* 'four *reales* (=50 centavos = 1/2 unit)' to refer to half of a larger unit (e.g., for 50 pesos, 500 pesos, 50 thousand pesos). Twelve *reales*, then was one unit-and-a-half, and was the only form in the series that didn't take the prefix *laq-*, 'real'; i.e., *kawt'uy*, 'twelve', refered to twelve *reales*.

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agreement; rather, the class of the referent is the determining factor, regardless of what noun might head the NP. Thus, in the following examples we find several different classifiers occurring with the same noun, *k'iw*, 'wood'; features of the referent determine which classifier occurs:

(3) 'aqa-tawn k'iw 'one tree standing up'
maqa-tawn k'iw 'one stick; one tree lying down'
pa:s-tawn k'iw 'one bundle of sticks'
'aqš-tawn k'iw 'one (flat) board'
kanka-tawn k'iw 'one tapered tip of a stick'

The last example demonstrates an extended use of the body-part prefix *kanka-*, 'nose'. All body-part prefixes (discussed in 2.3.1.3) can be used as numeral classifiers. Some refer strictly to body-parts and are thus relatively infrequent. Others, however, are used to classify objects in many domains besides that of body-parts.[2] Some examples follow:

2 An alternative account might be simply that such prefixes are not instances of body-part prefixes whose use is extended into other domains. Rather, they might be considered prefixes that specify features that can be applied to body-parts. To take the current example, *kanka-* rather than having as its primary gloss, 'nose' (with extensions into other domains) might have a more general specification such as 'object with a tapered tip'. The fact that it is used to refer to the body-part 'nose', then, would follow from the fact that it would be the most appropriate classifier available. However, the fact that the (Papantla) Totonac form for 'nose' is the cognate, *kinkan*, suggests that at least diachronically this was a case of extension of a body-part term into other domains.

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(4) 'ukšpu:-tawn 'one face, one surface (e.g., one side of a piece of paper)

č'an-tawn 'one foot, leg; in agreement, together'

kiɬ -tawn 'one mouth; one opening (doorway, window,etc.)

pakɬ -tawn 'one waist; one half'

The categories specified by the numeral classifiers are almost totally based on schematic features of objects and extensions by metonomy (see Lakoff 1983, 1987 for detailed discussion of such issues in categorization). One category that is largely based on metonomy is that pertaining to eating utensils (of which the terms are borrowed from Spanish):

(5) pu:maqa-tawn pla:toh 'plate'
ta:sah 'cup'
kuča:rah 'spoon'

However, another use of the same prefix is to count slices of fruits and vegetables:

(6) pu:maqa-tawn tawk'at'i 'chayote'
'ala:šuš 'orange'
niwkši 'squash'
santia 'watermelon'

It can refer to slices of meat only when each slice has a section corresponding to each significant part of the animal, i.e., when the animal is cut in half down the middle:

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(7) pu:maqa-tawn piyu: 'half a chicken (cut down middle)'
wa:kaš 'a side of beef'

While other categories frequently have members whose presence can only be attributed to metonomy, the basic organizing principle is shape or schematic features. The following is a list of such categories with the common feature specified (or at least an attempt made at such a specification) and some exemplars of each category:

(8) 'aqš- 'flat objects': coins, bills, tortillas, boards, cloth and clothing, paper, leaves.

paka- 'wing-like objects':wings,armpits,flower petals

maqa- 'long thin (cylindrical) objects': sticks and poles, individual bananas, rows between corn

č'a:- 'rows of stacked material': rows of stacked corn, stacks of books, rows of hanging clothes, rows of corn

pi'iš- 'rows': walls, rows of houses, rows of stands at market

talaq- 'levels, layers': walls, levels of building, rungs on ladder

qen- 'cylindrical objects': bars of panela, people, corn cobs

pu:ma:- 'people'

'oqšlaq- 'wide levels': floors of building, levels in a town

qaɬ - 'corn plants' (also body-part prefix for 'mouth')

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muślaq- 'hands of bananas'

ti- 'lines': lines on paper, roads and trails, stories, songs

mus- 'thread, strap' (from musni, 'strap made from bark'): sandle straps, watch bands, ropes

Other prefixes refer not to objects but to more abstract notions:

(9) laka- 'locations'

laka-kis ta-ya:nal ni wa:kaṡ

CLAS-five 3SUB,PL-stand(IMPF) ART cow

'The cattle are in five places.'

(10) tampa- 'yearly cycles (of plowing, planting, harvesting)'

(11) pu:- 'different kinds'

pu:-łuw way-ti alin

CLAS-many eat-NOM exist(IMPF)

'There are lots of kinds of food.'

(12) 'a- 'other'

ki-ṡtaq-ni-y 'a-tawn

1OBJ-give-DAT-IMPF CLAS-one

'Give me another one.'

(13) paq- 'days'

(14) 'aq- 'times'

'aq-t'uy ṡ-tapal ta:ča ṡ-un-i:ta

CLAS-two 3POSS-price as PT-become-PF

'It's twice the price it was.'

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'aq-t'uy ki:-la-ɨ

CLAS-two RET-do-PFV

'X went (there) twice'

Besides the prefixes listed above and the body-part prefixes listed in 2.3.1.3, there is a prefix for the category of 'other' items, *laqa-*. The most prominent members here are all animals as well as most recently introduced items (radios, watches, trucks, etc.).

Finally, though numerals virtually always occur with classifying prefixes, there is one situatioin in which the numeral usually appears in its bare unprefixed form: units of measurement borrowed from Spanish:

(15) tawn tasa kafe 'one cup of coffee'

one cup coffee

t'uy pla:to stapu 'two plates of beans'

two plates beans

t'ut'u kuštal kakaw 'three bags of peanuts'

three costal peanuts

Tepehua numerals can be pluralized by the same suffix that serves to pluralize nouns and many adjectives: *-n*. The use of the plural form is to refer to quantities of one or two or three, etc:

(16) kin-ta-maqštoqšva:-n 'aqš-kaw-in

1OBJ-3SUB,PL-charge-2OBJ CLAS-ten-PL

'They charged us ten (pesos, thousands of pesos, etc.) each.'

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(17) ka-min-a: paq-t'ut'u-n

IRR-come-FUT CLAS-three-PL

'X will come every third day.'

The only such plural that is slightly irregular is the plural of 'two':

(18) t'uy 'two'

t'iyun 'by twos'

As will be seen below, descriptive adjectives, while often admitting the plural suffix, generally pluralize by addition of the prefix, *laq-*.

3.2 Adjectives and de-adjectival verbs

As noted in 2.1.1, the stem-forming prefix *ta-* derives achievement verbs from stage-level statives and some accomplishment verbs, as well as occurring on numerous achievement verbs that have no corresponding unprefixed form. The same prefix occurs on a number of adjectives to form achievements. As might be expected from the discussion in 2.1.1, these same adjectives take the causative prefix, *ma:-* to form accomplishments (all of these also have corresponding achievement verbs with *ta-* in place of *ma:-*):

(19)

ADJECTIVE	ACCOMPLISHMENT VERB	GLOSS (to make___)
č'amaɬ	ma:č'amala-	tender
ki:kštuy	ma:ki:kštu:-	sharp
kiɬpa:tani:	ma:kiɬpa:t(ani)-	poor
laka:t'uniy	ma:laka:t'uni:-	little(size)
laka:c'uniy	ma:laka:c'uni:-	little(amount)
lakc'iniy	ma:lakc'ini:-	small.amounts

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luw	ma:luwa:-	much,many
laqač'iš	ma:laqač'išin	blind
laqsawa:ɬ	ma:sawa:la:-	true;confess
li:'ič̌i	ma:li:'ič̌i:-	hot(ambient)
ɬkaka	ma:ɬkaka:-	spicy
ɬma:n	ma:ɬma:ni:-	long
ɬqa:ta	ma:ɬqa:ta:-	reddish
luluh	ma:lulu:-	flexible
'oši	ma:'oši:-	good
paɬ'on	ma:paɬ'onu:-	tipid
p'a:sni	ma:p'a:sni:-	strong,hard
pu:lakt'uniy	ma:pu:lakt'uni:-	narrow
pu:ɬma:n	ma:pu:ɬma:ni:-	deep
saqsi	ma:saqsi:-	sweet
skah	ma:skaha:-	sour
snipaqa	ma:snipaqa:-	thin
sqoyaqa	ma:sqoyaqa:-	black
stala:n'a	ma:stala:nk'a:-	slippery
su:n	ma:su:ni:-	bitter
ti:ɬk'aviɬ	ma:ti:ɬk'avili:-	hunched
cuk'u:nk'u	ma:cuk'unk'u:-	cold(liquid)
c'uniy	ma:c'uni:-	little(amount)
škili:nk'i	ma:škili:nk'i:-	peppy
šut'ut'u	ma:šut'ut'u:-	white
yaqaq	ma:yaqaqa:-	white

While a list like this makes the process appear to be totally productive, there are some adjectives that cannot

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undergo this accomplishment-forming process. Included are Spanish loans, some forms that presumably don't have accomplishment counterparts for pragmatic reasons, others that for which there is no clear explanation. A few examples follow:

(20) ADJECTIVE	GLOSS
'akpuhuna:n	flat
'at'ali:	old(inanimate)
c'anɬtuɬ	crippled
'evih	stiff
k'aluks ~ kiluksna:	brilliant
li:stuh	ready (< Spanish)
maqati	far
ṡanu:lah	light-skinned (girl or woman)

That the base forms in the examples in (19) above are indeed adjectives is clear from two related facts: they don't take any of the inflection required by verbs and the only inflection they do manifest is adjectival inflection for number. Note, also, that there is a lengthening of the final vowel in virtually all of the verb forms; this lengthening is not found in the derivation of achievements and accomplishments from stage-level stative verbs.

As noted above, most adjectives that have accomplishment verb forms with *ma:-* also have achievement verb forms with *ta-*. However, in a number of other instances, achievement verbs are formed from adjectives without the prefixation of *ta-*:

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(21) ADJECTIVE	ACHIEVEMENT	GLOSS
ɬt'ama:nk'a	ɬt'ama:nk'a:	sticky
ɬwa:k'a:nk'a	ɬwa:k'a:nk'a:-	soft
šlapul	šlapulu-	red
šqawaw	šqawawala-	yellow
škiliw	škilili-	dirty

3.3 Derivation of adjectives

Besides providing the base in processes of verb derivation, adjectives can undergo further derivation without altering their form-class. This is by means of the same prefixes that occur as numeral classifiers, and especially that sub-class which consists of body-parts:

(22) a. 'aqatu-'ay 'big ears'
ear-big

b. č'an-ɬtuɬ 'crippled foot/leg'
foot-crippled

c. 'akapi:-t'uniy 'high-pitched (voice)'
palate-little

d. mak-ɬma:n 'long-armed'
hand/arm-long

As can be seen in the examples above, these forms are used to predicate of the body part, the state referred to by the adjective. That is, a clause with (a) as predicate adjective can alternatively be expressed by the following clause:

(23) 'ay 'iš-aqošqol
big 3POSS-ear
'X has big ears.'

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Again, as was observed with Tepehua numerals, several adjectives with body-part prifixes have acquired conventional, non-compositional meanings, as in the following example:

(24) qaɬ -'oṡi 'nice, generous (also, kindly speaking)
mouth-good

3.4 Syntactic position and inflection of adjectives

Tepehua adjectives can generally occur in either attributive or predicative positions. The only exceptions that I am aware of are four forms that only occur as predicate adjectives. The first two of these are used exclusively to refer to the weather and the other two belong to that set of lexical items that may function either as core-level adverbs or as adjectives:

(25) ɬi:'iči — 'it's hot'
ɬi:k'asnin 'it's cold'
ṡ'aman 'by it/her/himself'; 'alone'
tumpah 'apart, separate'

When occurring in predicative position, adjectives as well as nouns regularly occur with some form of the copula verb *hun*, 'become'. This verb manifests the most irregular conjugation in Tepehua and always follows the predicative noun or adjective with which it occurs:

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(26) IMPERFECTIVE

(h)kun	hun-a:-w
'un	'un-a:-t'ik
hun	ta-hun

PERFECTIVE

k-wa:ɬ	hu-w
'un-t'i	'un-t'ik
wa:ɬ	ta-wa:ɬ

PERFECT

(h)kun-i:ta	hun-ta:-w
k'at'i	un-t'a:-t'ik
hun-i:ta	ta-hun-i:ta

(27) ni ušint'i la: 'ay ku-'un-e:-'i

ART 2SGPRO very big IRR-become-FUT-2SUB

'You will be very big.'

(28) saq ku-'un-t'i

still/quiet IRR-become-PFV,2SUB

'Be quiet!'

(29) la: p'a:s=k'at'i

very strong be/2SUB

'You're very strong.'

(30) ma:s ta:ča lapana:ki tasu:-y, ha:ntu lapana:ki ka-wa:-ɬ

although as person appear-IMPF, NEG person IRR-become-PFV

'Though X looks like a person, it isn't a person.'

The second person perfect form (which cannot be analyzed into constituent morphemes) occurs as a post-clitic on the predicate adjective or nominal:

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(31) la: qaɬ -'oši=k'at'i

very mouth-good=you.are

'You're very kind.'

One of the most interesting features of the predicative use of adjectives and nouns is the fact that k- appears on the adjective or noun when the subject is first person singular or first person plural exclusive:

(32) kit'in wa: k-laka:t'uniy

1PRO FOC 1SUB-small

'I'm small.'

(33) wa: k-laqač'iš-in k-un-ta:-w

FOC 1SUB-blind-PL 1SUB-become-PF-1PLSUB

'We're blind.'

This is the only person marker that occurs on predicate adjectives and nouns; other persons are only marked on the verb, if at all. These facts would suggest that *k-* is, in fact, a clitic rather than a prefix: it manifests a relatively 'low degree of selection with respect to its host' (Zwicky and Pullum 1983). Thus, while affixes are highly selective (verbal affixes only occurring on verbs, nominal affixes only on nouns, etc.), *k-* here appears on adjectives and nouns, as well as verbs. However, I would maintain that regardless of the apparent clitic status of k- with predicate adjectives and nominals, it functions as an affix when it occurs with verbs. One bit of evidence of its status as an affix rather than as a clitic with verbs is the fact that other affixes attach 'outside' of it. As seen in

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the previous chapter, *ka-*, 'irrealis', and *'iṡ-*, 'past tense', (though I include them in the 'clitic group' in the phonology; see Appendix) behave like prefixes rather than proclitics: first, they are highly selective (they only occur on verbs); second, *'iṡ-* is subject to a lexical phonological rule of sibilant assimilation; and, third, they don't co-occur, leading to the rather idiosyncratic reading of *'iṡ-*, 'past tense', with a perfective suffix as 'past contra-factual'. Yet these two prefixes attach to material already containing *k-*, 'first person subject'. Further, within a Lexical Phonology model, there is strong evidence that with verbs *k-* must apply at the level preceding prefixation of *ka-* or *'iṡ*. In conclusion, *k-* functions as a prefix on verbs and as a clitic with predicate adjectives and nominals.

I'm not aware of other instances in the literature where it can be argued the same morpheme is a clitic in some constructions and an affix in others. However, it shouldn't be that unusual. Note that while Zwicky and Pullum argue forcefully for the suffix status of English *-n't*, they 'do not deny that modern contracted *n't* had its historical origin as a simple clitic'(1983:504). It doesn't seem unlikely that there would be instances in other languages such as the Tepehua case here in which the clitic or affix status morpheme has come to be re-analyzed in certain constructions and not in others.

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There is, in fact, some motivation for such a re-analysis. Tepehua regularly manifests SVO, VS, and VO word orders. Constructions with predicate adjectives and nominals are the only instances in which the verb is regularly clause-final and, more importantly, the verb must immediately follow the predicate adjective or nominal:

(34) kin-čaqa: la: 'ay š-un-i:ta

1POSS-house very big PT-become-PF

'My house was very big.'

* š-un-i:ta la: ay kin-čaqa:

PT-become-PF very big 1POSS-house

Of course, such an order is required in the second person perfect form of hun, as it must occur as a post-clitic on the predicate adjective or nominal with which it occurs:

(35) 'ay lapana:k=k'at'i

big person=you.are

'You're a big/important/powerful person.'

If the subject is first person singular, the predicate adjective or nominal may occur without any verb; however, the first person morpheme k-, is then obligatory.

(36) kit'in k-Pablo

1PRO 1SUB-Pablo

'I'm Pablo.'

(37) k=laqtšti:-šlapuɬ

1SUB-cheek-red

'My cheeks are red.'

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If, on the other hand, the inflected verb, hun, 'become', follows, the first person morpheme, k-, is present and is merely optional on the adjective or noun:

(38) k=laqšti:-šlapuł k-un-i:ta *or* laqšti:-šlapul k-un-i:ta
1SUB-cheek-red 1SUB-become-PF Ø-cheek-red ...
'My cheeks are red.'

Considering the facts mentioned above regarding word order in such clauses, it doesn't seem unusual that a prefix should have been re-analyzed as a clitic. The predicate adjective or nominal along with the inflected verb hun behaves as a unit phonologically as well as syntactically. Though it isn't possible to give the details of such a story, it doesn't seem unusual that the verbal prefix *k-* has come to be re-analyzed as a clitic, occurring before the entire predicate.

Besides taking the proclitic *k-* and the enclitic *=k'at'i* in their predicative use, adjectives are regularly -- though not obligatorily -- inflected for number. As noted in the discussion above, Tepehua numerals can take the plural suffix *-(V)n*, the suffix that also serves to pluralize nouns. Many adjectives can likewise be marked for plurality with *-(V)n*:

(39) yu'unča wa: laqpa-'asas-an
3PLPRO FOC head-bare-PL
'They are bare-headed.'

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(40) laqač'iš-in ta-wa:-ɬ

blind-PL 3SUB,PL-become-PFV

'They became blind.'

However, the most common marker of plurality on adjectives is the prefix *laq-*. Some adjectives, including the two above, may be pluralized by either *laq-* or *-Vn* or by both:

(41) laqpa-'asas-an ~ laq-laqpa-'asas ~ laq-laqpa-'asas-an

head-bare-PL PL-head-bare PL-head-bare-PL

(42) laqač'iš-in ~ laq-laqač'iš ~ laq-laqač'iš-in

blind-PL PL-blind PL-blind-PL

(43) č'an-ɬtuɬ -un ~ lak-č'an-ɬtuɬ ~ lak-č'an-ɬtuɬ-un

foot-cripple-PL PL-foot-cripple PL-foot-cripple-PL

Most adjectives, however, can only be pluralized by means of the prefix *laq-*, including the following (note that the *q* becomes *h* before *k* or another *q* or before glottal stop (which, in turn, is often *q'* in Huehuetla); see Appendix):

(44) a. lak-'akɬtant'uniy

PL-short

b. lak-'akpuhuna:n

PL-plane/level

c. lah-'ewih

PL-loose/flexible

d. lah-ay

PL-big

e. lak-č'amal

PL-soft/pliable

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f. lah-kan

PL-delicious

g. lah-k'us

PL-pretty

3.5 Comparative and superlative constructions

There is no morphological comparative or superlative in Tepehua; these constructions are only realized paraphrastically. The basic construction for the comparative is that in the following frame:

(45) apalay PRED (ša:)-ha:ntu BASE-OF-COMPARISON

more IMP.POSS-NEG

This frame is apparent in the following examples:

(46) a. kim-pay 'apalay maqama:-y stapu ša:-ha:ntu wa:kaš

1POSS-father more please-IMPF beans IMP.POSS-NEG meat

'My father likes beans more than meat.'

b. 'apalay ɬi:ta'ay 'iš-puš-ka kafe ša:-ha:ntu yu: 'aniy

more difficult 3POSS-pick-PASS(NOM) POSS-NEG ART this

'Picking coffee is more difficult than this.'

c. Pedro 'apalay 'oši čiwi:ni-y ha:ntu kit'in

Pedro more good speak-IMPF NEG 1PRO

'Pedro speaks better than I do.'

d. ki-laqah 'apalay maqni:-y kune:hu ša:ha:ntu 'ušint'i

1POSS-brother more kill-IMPF rabbit POSS-NEG 2PRO

'My brother kills more rabbits than you.'

e. yu:ča 'apalay tapa:ca:-y ha:ntu yu ša:pay

3PRO more work-IMPF NEG ART man

'S/he works more than the man.'

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There are a few things to note here. First, the predicate may be verbal(a), or adjectival (b). Second, its subject, if co-referenced by a full NP, must either follow the predicate (b) or precede *'apalay* (a). Third, the 'base-of-comparison' may be either a nominal that contrasts with the subject (c) or with the object (d) of the predicate or it may be another predicate (e). Finally, the form *šaha:ntu* is grammatically peculiar. As noted in (45), it apparently consists of the impersonal possessor prefix *ša-* and the negative, *ha:ntu*. It is peculiar in that it is the only instance in which the impersonal possessor occurs on a non-nominal form; and it occurs on the negative only in the comparative construction.

This order in this construction parallels the Spanish comparative and may, in fact, be influenced by it (if not actually a calque):

(47) Tepehua: 'apalay 'ay šaha:ntu kit'in

Spanish: mas grande que yo

'bigger than me'

In fact, the Spanish que often occurs in place of *šaha:ntu* or immediately following:

(48) 'apalay 'ay ke kit'in *or* 'apalay 'ay šaha:ntu ke kit'in

The translation equivalent of a superlative is formed in one of two ways. First, the comparative construction may be employed with the base of comparison being one of the negative polarity items, *matičun*, 'anyone', or *tu'učun*, 'anything':

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(49) 'apalay 'ay ha:ntu matičun 'bigger than anyone'
more big NEG anyone

(50) 'apalay lakat'uniy ha:ntu tu'učun
more small NEG anything
'smaller than anything'

This, again, parallels a common construction in Spanish (mas grande que nadie). However, the construction that is perhaps most commonly the translation equivalent of a superlative is that found in the following example:

(51) wa:mun yu: PRED e.g.,
wa:mun yu: 'ay
only ART big
'X is the only one that's big.'

The most literal translation it that given above (and is a possible intended meaning). However, in its most common use, this construction does not deny that the predicate may be true of other objects; it merely asserts that no other object exemplifies the features of the predicate to such a degree as does the subject (i.e., 'X is the biggest'). Thus the following sentence, while literally translated as below, would most often be used to assert that Veracruz is the biggest city in the state:

(52) Veracruz wa:mun yu: ay pu:taulan laka: estado
Veracruz only ART big community PREP state
'Veracruz is the only big community in the state.'
('Veracruz is the biggest community in the state.')

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4. Nouns and noun phrases

This chapter will present various details regarding noun-noun compounds, the various types of noun derivation, inflection of nouns, and features of the noun phrase, including linear order and the function and types of determiners.

As in other constructions in the grammar, while there is considerable concurrence among speakers regarding the vast majority of details, there are a few spots in which there is significant variation. In regards to nouns one of the differences that comes up immediately between subdialects of the Tlachichilco dialect area is the occurrence (or non-occurrence) of the morpheme *ha:-* on various forms. Many nouns that obligatorily begin with *ha:-* in the Chintipàn subdialect are regularly pronounced by speakers of the Tierra Colorada subdialect withou *ha:-*; the latter group, however, also readily accept pronunciation of the forms with *ha:-* and use the morpheme themselves (though with much less frequency).

Determining the function of *ha:-* continues to be one of the most recalcitrant aspects of Tepehua grammar. There are, however, several things that can be said about it, the most important being that it is quite evident we are dealing with at least two (homophonous) morphemes. First, it should be noted that *ha:-* of the Tlachichilco dialect corresponds to a- [?a] of the Huehuetla dialect. As was noted in 2.5.., this Huehuetla morpheme is often the only marker of third

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plural object; and the Tlachichilco form, *ha:-* has a similar function, though there it can occur not only with transitive verbs but also with intransitives, suggesting something like 'plurality of action'. Also as noted i there, in the Chintipàn dialect, some speakers regularly use *ha:-* on detransitivized verbs when the unspecified object is under stood to be plural. This is apparently the same morpheme that occurs obligatorily for many speakers of the Chintipàn subdialect with deverbal nouns. It is for this reason that in 4.2.3, below, there are many forms listed with *ha:-* in parentheses: on such forms it is always present for some speakers (primarily from Chintipàn subdialect) but usually absent for others (primarily from the Tierra Colorada subdialect).

This is likely the same morpheme that occurs on some mass nouns for some speakers. Thus, note the difference in the standard term for 'blood' in these two subdialects:

(1) T.C: k'aɬnan

CHINT: ha:k'aɬna

The Tierra Colorada form has the plural suffix *-n* and lacks the prefix *ha:-*, that is found in the Chintipàn subdialect. There is comparative evidence, as well, that *ha:-* here is a separate morpheme: while the Huehuetla form is *'ak'aɬni* (corresponding to the Chintipa'n form), the Totonac (Papantla) form is simply *qa'ɬni*. It is apparently the same use of *ha:-* that occurs (for Chintipàn speakers)

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with the terms for 'paper', *(ha)łiki*, and 'grass', *hac'in* (*ha-* is pronounced regularly by both groups on the latter).

On other nouns it is clear we are dealing with a second, homophonous morpheme, *ha:-*. This morpheme primarily occurs on unpossessed kinship terms. Thus the terms for 'father' and 'mother' when unpossessed have *ha:-* for speakers throughout the Tlachichilco dialect area[1]:

(2) ha:-pay ha:-nati
-father -mother

For speakers of the Chintipàn subdialect this apparently extends to potential kinterms such as *(ha:)c'i:*, 'young and/or unmarried female, daughter', *(ha:)c'ał*, 'young and/or unmarried male, son', and *(ha:)s'at'a*, 'child, offspring'. (In the Huehuetla dialect, of these three, only *c'ał* occurs without the corresponding *'a-*.)

In summary, there seem to be two homophonous prefixes, *ha:-*; one marking 'plurality' (or 'plurality of action') and the other occurring with unpossessed kinship terms. This prefix is used much more regularly by speakers of the Chintipałn subdialect of the Tlachichilco dialect area; and it corresponds to the *'a-* [ʔa] prefix of the Huehuetla dialect.

[1] This is distinct from the morpheme marking impersonal possession, *ša-*; see 4.3.

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4.1 Noun-noun compounds

There is only one type of truly productive noun-noun compound in Tepehua. The grammatical facts are simple: the first (modifying) member of the compound is an agent nominal (see 4.3) and the second (the head) is any other noun. Other than this, the process is constrained only by pragmatic factors, and I won't attempt to purse a full account here.

Like the Level II verb-verb compounds, an epenthetic [h] joins the two members of the compound:[2]

(3) ha:-škay-anah lapana:ki
-hate-AP(NOM) person
'a hateful person'

(4) skah-nah hari:nah
sour(NOM) flour
'souring/soured flour'

(5) ča:-nah ha:ka
cook/get.ripe(NOM) banana
'ripe banana'

(6) kuh-nuh š'o:y
awaken(NOM) dog
'alert/clever dog'

[2] Recall also that long vowels do not occur preceding tautosyllabic [h]; hence the final long vowel of the agent nominals appears as a short vowel. As discussed in 4.2.3.4, agent nominals on transitive verb bases require previous suffixation of *-nVn* and many agent nominals of intransitive verbs also manifest an apparent suffixation of *-nVn*.

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(7) maqni:-nih lapana:ki

kill-AP(NOM) person

'killer person'

4.2 Noun derivation

Tepehua has several means of deriving nouns, from verbs, from adjectives and from other nouns. The first two class- changing types of noun derivation involve unique derivational morphology. All occurrences of noun-noun derivation, however, involve morphology that is also found in verb-verb derivation. I will first present noun-noun derivation involving the same body-part prefixes found with verbs. Then I will present of noun-noun derivation involving three prefixes that also serve to increase verb valence. This will be followed by the two class-changing types of noun derivation: deadjectivals and deverbals, the latter presenting the largest and most varied set of noun derivation processes.

4.2.1 Noun --> noun derivation

There are several processes which manifest noun-noun derivation in Tepehua. As I will show, however, only one of these is truly productive.

4.2.1.1 Noun --> noun derivation: body-part prefixes

The most limited and least productive process of noun derivation in Tepehua is that which derives nouns from other nouns by the addition of a body-part prefix. All attested examples simply further specify body parts that are included

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within the more general region denoted by the prefix. A few examples follow:

(8) qaɬ -ṡta'a
mouth-skin
'lips'

(9) laka-stapu
eye-bean
'pupil (of eye)'

(10) mah-'esi:ti č'an-'esi:ti
hand-nail foot-nail
'fingernail' 'toenail'

(11) 'aq-loqoti (< 'aq + lukuti)
head-bone
'horn'

(12) mak-ṡka:n
hand-water
'hand blister'

4.2.1.2 Noun --> noun derivation: ɬi:-, t'a:-, ma:-

Processes of noun derivation involving the prefixation of *ma:-*, *ɬi:-*, or *t'a:-* are also somewhat limited but are generally more productive than noun derivation via body-part prefixation. These three prefixes are formally identical to three of the four valence-increasing prefixes that occur with verbs, discussed in 2.3.1.1. The only valence-increasing verb prefix that has no counterpart with underived nouns is *pu:-*. As noted in 2.3.1.1 and 4.2.3.4 it does occur on underived nouns in Totonac to specify

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location. However, in Tepehua the only nouns that have the *pu:-* prefix are the deverbals (discussed in 4.2.3).

Of the three prefixes that do derive nouns from other nouns, the one that is semantically most distant from its verbal counterpart is *ma:-*. Recall that with verbs this prefix serves as the productive causativizer. With nouns, however, it signifies something like 'owner' or 'one in charge'. Of the four prefixes discussed here, this is the only one that is truly nonproductive. The only two commonly attested examples in which its derivational function is synchronically obvious are the following:

(13)	čaqa:	ma:čaqa:
	house	owner.of.house (also occurs predicatively followed by place name, indicating 'native of X')
	k'a:tan	ma:k'a:tan
	fiesta	mayordomo

A third example that is attested but somewhat more uncommon is has a Spanish loanword for its base:

(14) ma:tienda 'store-owner'

Two other instances clearly have an etymology involving prefixation of *ma:-* but there is no apparent awareness on the part of my consultants that the derived forms are, in fact, derived. The first involves a term for town authority and the second, as mentioned in chapter 1, is the term for 'Tepehua speaker' in the Tlachichilco dialect area:

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(15) č'aɬkatnan ma:č'aɬkati

'work' (Huehuetla only) town.authority (Tlachichilco)

sipih ma:sipihni:

'hill' (Pisa Flores only) 'Tepehua (dweller of highlands)'

Noun-noun derivation by means of prefixing *ɬi:-* is quite unproductive. In 2.3.1.1 I presented evidence that *ɬi:-* specifies 'direction' when it occurs on verbs. On nouns, it serves a related function. With the forms for 'left' and 'right', it signifies 'X's left/right side':

(16) laqa: maqšu 'iš-ɬi:-maqšu

PREP left 3POSS-DIR-left

'to/on the left' 'X's left side'

(17) laka: ka:nah 'iš-ɬi:-ka:nah

PREP right 3POSS-DIR-right

'to/on the right' 'X's right side'

This use of *ɬi:-* parallels its occurrence with the locatives *'aniy*, 'here', and *'awi:nti*, 'there', where it again allows the form to be possessed:

(18) š-ɬi:-'aniy kin-čaqa:

3POSS-DIR-here 1POSS-house

'This side of my house.'

(19) š-ɬi:-'awi:nti ni k'iw

3POSS-DIR-there ART tree

'That side of the tree.'

The other major use of *ɬi:-* with nouns is its occurrence with kinship terms to signify 'like' or 'takes after', the

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derived form again being possessed and occurring predicatively:

(20) wa: 'iṡ-łi:-pay

FOC 3POSS-DIR-father

'X is like/takes after his/her father.'

(21) wa: 'iṡ-łi:-nati

FOC 3POSS-DIR-mother

'X is like/takes after his/her mother.'

(22) wa: 'iṡ-łi:-papa

FOC 3POSS-DIR-grandfather

'X is like/takes after his/her grandfather.'

The most productive of these prefixes in deriving nouns is the comitative prefix, *t'a:-*, the prefix that is also the most productive of the set in verb derivation. The derived form is always possessed and has the meaning 'X's fellow ____' or 'X's co-____' (where the possessor, X, and the referent of the derived noun are of the same type):

(23)

BASE FORM		DERIVED FORM	
has'at'a	'child'	'iṡ-t'a:-s'at'a	'X's fellow child, playmate'
lapana:ki	'person'	'iṡ-t'a:-lapana:ki	'X's relative (usually 'sister' in Tlach.)'
kuyuh	'armadillo'	'iṡ-t'a:-kuyuh	'its fellow armadillo'
'iṡ-p'u:t'i	'son/daughter in-law'	'iṡ-t'a:-p'u:t'i	'X's consuegro (fellow in-law)'

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ṡa:nati	'woman'	'iṡ-t'a:-ṡa:nati	'X's fellow woman'
tro:pah	'soldier'	'iṡ-t'a:-tro:pah	'X's fellow soldier'

As the only constraints seem to be pragmatic, we can formulate the following simple rule to describe the only truly productive process of noun-noun derivation in Tepehua:

(24) [X] --> [t'a:[X]]
noun noun(comitative)

As will be seen in 4.2.3.4, this process is extremely common with agent (deverbal) nominals.

4.2.2 Deadjectival nouns

Nouns can be formed from adjectives in Tepehua by the following rather productive rule:

(25) [X] --> [[X] i:ṡtu]
adjective noun

That is the noun is formed by adding a long [i:] (or lengthening a stem-final [i]) and the segments *-ṡtu*. The only minor set of eṡceptions are some adjective stems that instead of adding [i:], they add a long vowel of the same quality as the preceding vowel. The resulting noun refers to the property specified by the adjective and is regularly possesed (the possessor being the item which possesses that property):

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(26)

ADJECTIVE BASE		DERIVED NOUN	
'ay	'big'	'iṡ-'aya:ṡtu	'X's size'
po:'ay	'wide'	'iṡ-po:'aya:ṡtu	'X's width'
c'ink'i	'heavy'	'is-c'ink'i:ṡtu	'X's weight'
ɬman	'long'	'i-ɬmani:ṡtu	'X's length'
ta:ɬman	'tall'	'iṡ-ta:ɬmani:ṡtu	'X's height'
'oṡi	'good'	'iṡ-'oṡi:ṡtu	'X's goodness'
kan	'delicious'	'iṡ-kani:ṡtu	'X's flavor'
saqsi	'sweet'	'i-saqsi:ṡtu	'X's sweetness'

<INCLUDE \DISS\NONVB\NP>

<INCLUDE \DISS\NONVB\NP2>

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4.2.3 Deverbal nominals

Tepehua (and Totonacan in general) displays several means of forming nouns from verbs. In general, a verb stem potentially has up to seven derived nouns; most have fewer and a very few have more. Actually, some such nouns are not based directly on the nonderived verb root but rather on verbs that are distinct derivational alternates of the verb. Note the following examples (*ča'a:-*, 'wash', is definitely unusual in having eight corresponding derived nouns):

(27) VERB	NOUNS	
ča'a:-y	ča'a:na:	'washer'
wash-IMPF		
	t'a:ča'a:na:	'fellow-washer'
	ɬi:ča'a:ti	'laundry (still dirty)
	ča'a:nti	'laundry (cleaned), act of washing'
	ɬa:ča'a:n	'soap'
	pu:ča'a:n	'washing trough'
	pa:ča'a:n	'washboard, washing place'
	'is-ča'a:ka	'the washing of X'
	3POSS-	

My purpose in this section is to attempt to account both for the formal characteristics of these nominals as well as for the interpretation they are given, and to discuss the notion of productivity that emerges.

Word derivation that results in a change of form-class may result from two different types of motivations. I have

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in mind something like the distinction discussed by Kurylowicz (1936) between *dèrivation lexicale* and *dèrivation syntaxique*. A parallel distinction has recently been presented by Kastovsky (1986) who refers to two functions of nominalization: 'labeling' and 'syntactic recategorization'.[1] It is quite apparent that the different forms of Tepehua deverbal nominals can be related to just such a distinction of functions. I will refer to this distinction several times in the presentation below and will discuss it to some extent at the end of this section where (following Kastovsky) I will relate it to the issue of productivity.

As noted above, there are usually several derived nominals that correspond to a particular verb; and some of these involve the valence-increasing affixes discussed in chapter 2: *ɬi:-*, 'direction', *pu:-*, 'route', and *t'a:-*, 'comitative'. The suffix *-ni* does not occur in deverbal nominals.

---

[1] Actually, the distinctions presented by Kuryłowicz and Kastovsky are not entirely parallel. Kuryłowicz frames his distinction in the following manner:

> Toute comme la dèrivation syntaxique se dèroule à l'intèrieur d'un seule et même valeure lexicale...tout ainsi la dèrivation lexicale suppose que le mot-base et le dèrivè sont identiques quant à leur fonction syntaxique primaire. ([1936]1966:45)

The kind of nominalization that serves the function of 'labeling' as discussed by Kastovsky, then, would involve forms in which both lexical and syntactic derivation occur (as in the discussion by Kuryłowicz of the French noun *hauteur*), whereas nominalization whose function is syntactic recatgorization would correspond to Kuryłowicz's syntactic derivation.

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One generalization that holds for most Tepehua deverbal nominals except the agent deverbals can be given in the following preliminary form:

Argument structure of derived nouns (preliminary statement):

(28) For all deverbal nominals except the agent nominals, the possessor of the nominal refers to the same entity that the subject of the corresponding verb refers to. The derived nominal refers refers to the action itself if it is an action nominal and to the direct object of the corresponding verb otherwise.

A more careful account is possible but a couple of preliminary points need to be made. First, even if a verb has multiple non-subject core arguments, only one is relevant here: it is the argument that is next highest (after the subject) on the following hierarchy which was developed in 2.1[2]:

(29) highest macrorole > arg of affix > undergoer

Thus, the 'direct object' of a verb that has a valence-increasing prefix is not the same as the object of the base verb; instead it is the argument of the prefix of the derived verb. According to (28), then, the referent of a nominalized verb with a valence-increasing prefix will (in

[2] This hierarchy is identical to that presented in 2.1.3, with the exception that the distinction of 'first or second person participant' does not enter into the ranking.

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the regular cases) be the same as that referred to by the object of that prefix in the corresponding verb.

Second, Tepehua deverbal nominals only have one argument, in the usual sense of the term. That argument is realized in the same way that is so familiar in literature on nominal arguments: it occurs as the possessor of the nominal. However, we can go somewhat further and assume with Williams 'that every noun has an [additional] argument (R) by virtue of which it can be used referentially (the "x" in the logician's "man(x)")' (1987:367). This then gives us two arguments for each deverbal nominal in Tepehua, one realized as the possessor of the nominal and the other as the referent of the nominal.

Now, there are usually at most three positions in the argument structure of a verb that are available to serve as arguments in the corresponding derived nominal: the two macroroles (actor and undergoer) and the argument of one of the valence-increasing prefixes. These arguments are arranged according to the hierarchy given above. This hierarchy then maps onto a hierarchy of argument positions for the derived noun in the following fashion:

(30) Argument structure of derived nouns:

Verb args: (Map one-to-one, from top-to-bottom)	Realization in derived noun:
Highest macrorole	Possessor
argument of prefix	*R* of noun
Undergoer	

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The highest-ranking argument in the argument structure of the verb maps onto the highest position of realization in the derived noun, the possessor. The next-highest argument of the verb (if there is one) then maps onto the other argument position of the derived noun, *R* (i.e., it is the referent of the noun). If there is only one argument of the base verb it is realized as possessor of the derived noun and the referent of the noun (*R*) is simply the same as the referent of the verb (i.e., the action or state).

Besides being more explicit, the statement in (30) has the further advantage over the informal statement in (28) in that it also accounts for agent nominals. Unlike all other deverbal nominals, agent nominals in Tepehua are virtually never possessed. One possible account, then, would state that no argument of the base verb can be realized as possessor in agent nominal constructions. As a result, the actor maps onto R of the derived noun.[3]

In the following sections I will present the major types of deverbal nominals. I will start with one of the nominalization processes that only take intransitive verb for their base: the action nominals. Then I will discuss object nominals based on verbs with and without the direction prefix, *ɬi:-*. The third section will discuss the passive nominals which are formed from verbs that have the passive suffix *-kan*. The next section will present the nominals based on verbs with the VIA prefix, *pu:-*.

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Finally, the agent and co-agent nominals will be presented. The co-agent nominals are simply a variant of the agent nominals with the comitative prefix *t'a:-* and will be discussed with the agent nominals.

4.2.3.1 Action nominals

Action deverbals are derived from intransitive verb stems (with none of valence-increasing prefixes found in other nominalizations). The suffix that regularly marks this nominalization process is *-ti*:

(31) v[X] --> N[[X]-ti]

Since the base verb must be intransitive, to form an action deverbal from a transitive verb, the Antipassive suffix, *-nVn*, must be present. However, the presence of this suffix is not entirely obvious due to a truncation process that precedes suffixation of *-ti*. This truncation process is identical to that found in the second person perfective as discussed in 2.4.5 and applies in the derivation of all types of deverbal nouns:[3]

```
(32) a. V C V C  --> V C
        ¦ ¦ ¦ ¦      ¦ ¦
        X n Y n]     X n]

     b.   C V C  --> C V
          ¦ ¦ ¦      ¦ ¦
              n]        ]
```

As a result of this truncation it isn't immediately obvious that the action deverbals of transitive verbs manifest a prior suffixation of the antipassive suffix, *-nVn*. All that

[3] As pointed out in 2.4.5, the disjunctive ordering of (32a) before (32b) need not be explicitly stated in the grammar; it simply follows from the Elsewhere Principle.

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is distinctive in the derived form of transitives from deverbals of intransitives is the ending *-nti* (or *-nati*) rather than simply *ti*:

(33) VERB	ACTION NOMINAL
pa:ška:-y love-IMPF	(ha)pa:ška:nti love
'ah-ya dig-IMPF	'ahnati digging
ča'a:-y wash-IMPF	ča'a:nti washing
č'i:-y tie-IMPF	č'i:nti tying
'aqtayhu:-y help-IMPF	'aqtayhu:nti help
č'uk'u-y cut-IMPF	č'uk'unti cutting
če'e-y break-IMPF	če'enti breaking

That the *-n* in these forms is, in fact, the truncated remains of the suffix *-nVn* is evident from two facts. First, all verbs that end in *-nVn* undergo the process in (32). This includes those verbs that always occur with *-nVn* in their finite form (i.e., these are instances in which *-nVn* occurs as a morpheme but without its usual 'detransitivizing' function (in any clear sense, at least); see 2.3.1):

(34) VERB	NOUN
łtanan walk(IMPF)	ha:łtanti walking
pałnan sweep(IMPF)	pałnati sweeping, swept floor

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qamana:n play(IMPF)	qama:nti game, playing
taɬanan fear(IMPF)	taɬanti fear
maqpa:nan defecate(IMPF)	maqpa:nti excrement, defecating
culu:nun urinate(IMPF)	culu:nti urine, urination
ma:šanan shy/ashamed(IMPF)	ma:šanti shyness/shame

Second, as the above account predicts, all action nominals that are derived from transitive verb stems end in *-nti* rather than simply in *-ti*:

(35)

VERB	NOUN
ma:stak'a:-y greet-IMPF	(ha:)ma:stak'a:nti greeting
ɬqa:-y slice-IMPF	ɬqa:nti slicing, slice
kaɬa-y winnow-IMPF	kaɬanti winnowing
k'uč'u:-y heal-IMPF	(ha:)k'uč'u:nti healing, patient
škahi-y hate-IMPF	škayanti[4] hatred

The only exceptions to the requirement that action deverbals of transitive verbs end in *-nti* are a few transitive forms that instead have a prefixed *ta-*

[4] As discussed in Appendix I, verb stems of this type have the following structure:

(i)
```
--V C V
   ¦ ¦ ¦
   a y
```

This, with the presence of the epenthetic [a], accounts for the nominal form, *škayanti*.

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(reminiscent of the achievement-deriving prefix discussed in 2.1):

(36)	lani:-y learn-IMPF	(ha:)talani:ti learning, education
	pa:stak-'a think-IMPF	ha:tapa:stak'ati[5] thought, wisdom

All intransitive verbs that don't end in the suffix *-nVn*, are nominalized simply by suffixation of *-ti*, as in (31) (following the truncation rules of (32), where applicable):

	VERB	NOUN
	miɬpa:-y sing-IMPF	miɬpa:ti singing, song
	čiwi:ni-y speak-IMPF	čiwi:nti word, speaking
	soqo-y hurry-IMPF	soqoti rush
	ɬtata-y sleep-IMPF	ɬtatati sleep
	takyahu-y run-IMPF	takyawti running
	wahin eat(INTR)(IMPF)	wayti meal
	čani:-y sweat-IMPF	čani:ti sweat

Other common (i.e., frequently occurring) examples of Tepehua action nominals include the following:

[5] The [a] preceding the -ti here is epenthetic (see Appendix). Stem-final oral stops are regularly glottalized in the Tlachichilco dialect when immediately preceding a vowel.

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(38)	'ačan be.happy(IMPF)	'ačati happiness
	č'ahu-y grow.body.hair-IMPF	č'awti body.hair
	skiti-y grind(corn)-IMPF	skititi corn.meal
	šana-y blossom-IMPF	šanti flower
	'akča'an be.jealous(IMPF)	'akča'ati jealousy
	tawla:-y sit.down-IMPF	tawla:ti (act of)sitting.down
	skaka-y warm.up-IMPF	skakati fever, heat
	taqšto'a-y gather.together-IMPF	taqšto'ati meeting
	'uh'u-y cough-IMPF	'uh'uti cough, cold
	lani:-y learn-IMPF	(ha:)talaniti education
	maqaɬqahnan suffer(IMPF)	(ha:)maqaɬqahnati suffering
	čawa:ni-y be.hungry-IMPF	čawa:n famine, hunger
	lakɬkanan tell.lie(IMPF)	(ha:)lakɬkanti lie
	cuku-y be,exist-IMPF	(ha:)cukunti spirit, life
	ma:payni:-y have.pity-IMPF	(ha:)ma:payni:nti pity, mercy, compassion
	tapayni-y request-IMPF	tapayniti request
	ɬi:sakmi:-y ask-IMPF	(ha:)ɬ:sakmi:nti question
	sa:-y hit;play.music-IMPF	hasa:nti music

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As the alert reader has no doubt noticed, the glosses of what I'm calling action nominals do not always suggest reference to the action, but rather some object that results from the action. This vagueness of reference (I hesitate to call it an ambiguity) seems to occur throughout this class of deverbal nominals. It isn't unusual, however, as can be seen by comparing numerous nominals in English that have either an 'action' reading or a 'result/object' reading:

(39) destruction, cuttings, building, writing, drawing, ...

There are, in fact, a number of forms resulting from this nominalization process that almost exclusively refer to an object rather than an action. Compare the following forms:

(40)	maq-tanu:-y	maqtanu:ti
	hand-enter-IMPF	ring
	'aq-tanu:-y	'aqtanu:ti
	head-enter-IMPF	hat
	maqalin	maqaliti[6]
	have	riches

Following Kastovsky 1986 we can say these nominals have come to serve a 'labeling' function, rather than the 'syntactic recategorization' function that is most typical of this nominalization process. This labeling function has resulted in a narrowing of reference for these nominals, such that

[6] This particular example is an exception to the requirement that transitive verbs be detransitivized by suffixation of *-nVn* prior to nominalization of this type. It may be related to the fact that it is itself analyzable into two morphemes, the second of which is intransitive: *maq*, 'causative', and *'alin*, 'exist' (see 2.1.2).

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they no longer refer to actions. As Kastovsky points out, the labeling function is virtually entirely driven by pragmatic/cultural factors. This is reflected in the frequency (of usage) of such forms: thus, the derived nominal *'aqtanu:ti*, 'hat', is textually far more frequent than the base verb from which it is derived, *'aqtanu:-y*, 'X puts head in / puts on hat'.

Nevertheless, it is clearly the case that the nominalization pattern considered here (INTRAN VERB + ti) displays a hierarchy of productivity of the following sort:

(41) Action > Result
Object

That is, the use of this nominalization process to refer to actions is more productive than its use to refer to the result of the action or to an object. This is reflected in the fact that it primarily serves a syntactic recategorization function and only in a few instances a labeling function. (Of course, as can be seen from glosses above, in some cases one and the same form can serve either function; cf. Kastovsky 1986:595,6).

To conclude, note how the action nominals follow the predictions regarding argument structure in (30). The base verb must be intransitive, either inherently so or detransitivized by means of the antipassive suffix, *-nVn*. This means there is no undergoer in the base verb that is available for mapping onto the argument structure of the

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derived noun. Further, there is no valence-increasing prefix present. This then insures there will be only one verbal argument present in the base verb: the actor or, with some intransitives, the undergoer. This argument is then realized as the possessor of the derived noun, leaving the action or state of the verb to be the referent of the derived noun.

4.2.3.2 Object deverbal nouns

The above discussion only included the nonprefixed deverbals. However, the deverbals that are formed with the prefix *ɬi:-* seem to overlap in semantic category with this class. Thus some verbs that lack a non-prefixed deverbal have a *ɬi:-* prefixed deverbal that serves a similar function of denoting an action:

(42)	tapaca:-y work-IMPF	ɬi:tapaca work, job
	la-y do;be.able-IMPF	ɬi:lati work; things to do
	paś-a bathe-IMPF	ɬi:paśati bathing, bath

I will return to an account of the interpretation of these deverbals shortly. First, it should be pointed out that these nominals differ in their word-formation rule from the action nominals besides the simple presence of *ɬi:-*. While an action nominal can only form on an intransitve verb base (and so require previous detransitivization of transitive verbs) the *ɬi:-* nominals are not so restricted. Other than this fact, however, the nominalization process is the same as that found with action deverbals: suffixation of *-ti*.

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(43) v[ɬi:-[X]] --> N[[ɬi:-[X]]-ti]

Also, just as the truncation of final (nasal-)vowel-nasal sequences in (32) was shown to occur prior to application of (31), so it must occur with the object deverbals as well.

The fact that the base need not be intransitive results in a consistent formal difference between action deverbals and *ɬi:-* deverbals when the base verb is transitive: with action deverbals, the ending is *-nti* (the *n* being what's left of the antipassive suffix after the truncation process); with *ɬi:-* deverbals, the ending is regularly simply *-ti*. Perhaps it is the fact that the direction nominals are often formally distinct even apart from the *ɬi:-* prefix that some forms do not, in fact, have the *ɬi:-*.

For a number of verbs it is possible to elicit both a *ɬi:-* deverbal as well a nonprefixed deverbal. Now recall that the action nominals often have as a potential referent an object resulting from the action. In such cases, the action nominals and the object deverbals appear to overlap referentially. However, when both forms are presented in juxtaposition to a speaker for comparison, the *ɬi:-* deverbal is regularly said to refer to the object of the yet-to-be-undertaken action and the nonprefixed deverbal to the object of the completed action:

(44)	čeʼe-y break-IMPF	ɬi:čeʼeti what.is.to.be.broken	čeʼenti what.is.broken
	čʼi:-y tie-IMPF	ɬi:čʼi:ti what.is.to.be.tied	čʼi:nti what.is.tied

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hunta'i:-y	ɬi:hunta'i:ti	junta'i:nti
gather	who.will.be.gathered	who.has.been.called
laqayma:-y	ɬi:laqayma:ti	laqayma:nti
rebuke-IMPF	one.not.yet.rebuked	who.has.been.rebuked
maqɬka:-y	ɬi:maqɬka:ti	maqɬka:nti
try.on-IMPF	that.not.yet.tried.on	that.tried.on
ma:-šawa:-y	ɬi:šawa:ti	ma:šawa:nti
CAUS-burn-IMPF	field.not.burned.yet	burned.field

Note that the according to (30) we would expect the *ɬi:-* nominal to refer to the object of the prefix. Recall from 2.3.1.1 that the semantic role of the argument of *ɬi:-* is that of 'direction'. As shown there, the central notion in this concept of 'direction' is the object, state, or event toward which the action is directed, a notion that clearly extends into non-spatial domains. Recall also, that the *ɬi:-* need not incorporate another argument into the logical structure; it may 'overlay' its semantic role on an argument of the verb.

These facts, along with the fact that the object deverbal does not require previous detransitivization of a transitive verb base help to account for the function of this particular nominalization. Following (30), the two arguments in the argument structure of the verb that will be realized as arguments of the noun are the highest-ranking macrorole and the object of the prefix. The actor (or, possibly the undergoer of some intransitives) will be realized as the possessor of the derived noun. The referent of the derived noun, then, will be the argument of *ɬi:-*. With an intransitive verb base, this referent will usually

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be the object toward which the action is directed; with transitive verbs, the referent will usually correspond to the direct object of the base verb.

There are instances, however, in which the referent of the verb is the action; yet it differs from the corresponding action nominal, in that it consistently refers to the action as 'lacking' or 'not yet done', thus paralleling the difference noted in (44), above:

(45)	wa:wa:-y	ɬi:wa:wa:ti
	feed-IMPF	feeding(that needs to be done); one fed
		wa:wa:nti
		action of feeding
(46)	'ah-ya	ɬi:'ahati
	dig-IMPF	digging(that needs to be done)
		'ahnati
		digging (done); diggings

These are instances of nominalizations serving the function of syntactic recategorization (as opposed to the function of labeling). I will return to this in a moment. First note that though the object nominals and the action nominals may in some cases both refer to actions, the following generalization holds:

(47) When there is a contrast between a object deverbal and an action deverbal in which one refers to the action and the other refers to the object of the action, the latter will be marked by the object deverbal.

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Some examples of this follow:

(48)	ma:stak'a:-y	ma:stak'a:nti
	greet-IMPF	greeting
		ɬi:mastak'a:ti
		person greeted
(49)	ma:payni:-y	ma:payni:nti
	pity-IMPF	mercy, compassion, pity
		ɬi:ma:payni:ti
		one who's pitied
(50)	ma:ša:nan	ma:ša:nti
	be.ashamed(IMPF)	shame, embarrassment
		ɬi:ma:ša:n
		what/who one is ashamed of

Thus, the grammatical object of *ɬi:-* is very likely to be a referential object, accounting for the fact that deverbal nouns with *ɬi:-* regularly refer to objects. On the other hand, the action deverbals primarily refer to the action denoted by the verb and only only secondarily refer to the objects of that action; and then only to objects that have undergone the action.

There is some sense also in which the contrasts in (44)-(46) between object of the yet-to-be-undertaken action and the object of the completed action support the greater transitivity of the object deverbals. We can see this by expanding on the notion of individuation (presented by Hopper and Thompson (1980) as one of the components of transitivity). An object that has not yet been affected by

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the action is conceptually more distinct from the activity than an object which has undergone the action. Thus *ɬi:ča'a:ti*, 'laundry yet-to-be-washed' is more distinct from the activity than *ča'a:nti*, 'washed laundry' (note, in fact, that the latter may refer to the activity itself). This, of course, is very tentative, but it gives a plausible motivation for the patterns observed.

The object deverbals may have a base verb with an adverbial suffix when they serve the function of syntactic recategoriza tion. Here, as well, the same temporal distinction is present, referring to an action not yet done:

(51) mi-ɬi:-maka:-putu-ti

2POSS-DIR-do-DESID-NOM

'What you want to make/ are planning to do.'

(52) mi-ɬi:-maka:-čoqo-ti

2POSS-DIR-do-REP-NOM

'What you will do again /redo.'

(53) mi-ɬi:-maka:-o:-ti

2POSS-DIR-do-COMP-NOM

'What you will do completely.'

By way of summary, the object deverbals and nonprefixed deverbals interact and overlap to some degree in their function and interpretations. For verbs that have both possiblities for nominalization, the object deverbal more often refers to the object of the action or to the object of the yet-to-be-completed action.

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Returning to the distinction between the functions of these nominalization processes, we can note following Kastovsky that though it may be the case that some processes that primarily serve a labeling function may not be used for syntactic recategorization, the converse is not true. That is, processes primarily marking syntactic 'recategorizations can always also be used as labels, a consequence of their categorial status which is that of a lexical item'(1986:596). Thus, as with the action nominals, with some verbs the object deverbal has come to only serve a labeling function. These are sometimes irregular forms, as well, lacking either the *ɬi:-* or the *-ti*:

(54) VERB	OBJECT DEVERBAL	ACTION NOMINAL
wahin eat(INTR)(IMPF)	ɬi:way mole	wayti meal
'u:-y eat(TRAN)-IMPF	ɬi:'uti food, nutrition	----
tapa:tsa:-y work-IMPF	ɬi:tapa:tsa work, job	----
'oqs̀tama:-y hire-IMPF	'oqs̀tama:ti hired.worker	'oqs̀tama:nti act of hiring
'ot-'a dring-IMPF	ɬi:'otati aguardiente	'oqnuti drinking

If we take an overview of the *ɬi:-* and nonprefixed deverbals together, they can be placed into one of three rough and overlapping categories, along a continuum of abstract to concrete (or more accurately, a continuum of function from that of syntactic recategorization to that of labeling):

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(55) ABSTRACT ---------- CONCRETE

Activity	Result	other object
'ačati happiness	č'awti hair,fur	'aqtanu:ti hat
'akča'ati jealousy	čiwi:nti word,speech	čuh'uti saliva, spittle
'aqtayhu:nti help	hasa:nti music	łi:'ot'ati aguardiente
čawa:n hunger,famine	łi:sakmi:nti question	łi:'u:ti food, nutrition
maqałqahnati suffering	miłpa:ti song	łkikni shade
maqani:ti sadness	tapayniti a favor	tsukunti life, spirit
tawlati sitting	skititi corn.dough	'oqštama:ti hired.worker

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4.2.3.3 Passive nominals

The passive form of a transitive verb is, of course, syntactically intransitive. The process marked by the reflexive-passive suffix, *-kan* makes the actor of a transitive verb syntactically inactive. The same is the case with deverbal nouns. Thus a nominalized verb with *-kan* has no actor syntactically available; following (30), the next available argument -- the object of valence-increasing prefix or the undergoer -- is then realized as possessor of the derived noun. The derived noun itself has as its referent the action denoted by the corresponding verb.

However, it should be noted that passive nominals almost never occur with a valence-increasing affix and, thus, are generally limited to inherently transitive verbs. While (56) is acceptable (an instance of a valence-increasing prefix on an intransitive verb), (57a) is impossible:

(56) ha:ntu ki-ma:qama:-y 'iš-pu:-tama:-ka mi-saqati
NEG 1OBJ-please-IMPF 3POSS-VIA-lie-PASS(NOM) 2POSS-bed
'I don't like the lying down of your bed.' (i.e., how it feels when one lies down on it)

(57) a.*'i-štaq-ni-ka cf. b.'i-štaq-ka
3POSS-give-DAT-PASS(NOM) 3POSS-give-PASS
'The giving to X.' 'The giving of X.'

That is, (30) would predict if constructions such as (57a) occurred the referent of a passive nominal of a transitive verb with a valence-increasing affix would be the undergoer;

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however, such constructions do not occur. The referent of the passive nominal is regularly the action.

The only attested exceptions to the last statement are thetwo verbs that are inherently ditransitive: *la:ni-y* 'X owes Y to Z', and *ce'ewa:-y*, 'X gives Y to Z as a gift'; the first (at least historically) from *-ła:'an*, 'take' and *-ni*, 'dative' and the second from the compound with the irregular causative *(wa:)wa:* as the head (see discussion in 2.3.1.1).Assuming the dative argument functions in these forms as the undergoer (which follows from marked undergoer choice in dative and causative constructions), the prediction of (30) holds true: the dative argument is realized as the possessor and the referent of the derived noun is the remaining argument (the theme):

(58) 'iš-če'ewa:-ka Pedro wa: radio
3POSS-give.freely-PASS(NOM) Pedro FOC radio
'The giving to Pedro was a radio.'

Passive deverbals are oblilgatorily possessed and, as noted, the possessor corresponds to the undergoer of the verb. As a result, though the reflexive-passive suffix, *-kan*, may occur with intransitve verbs in Tepehua (see 2.3.1.2.1), there are no deverbal passives of intransitives, as there would be no verbal argument available to function as possessor of the derived noun.

While all other deverbal nominalization processes in Tepehua have some gaps (i.e., some verbs that will not undergo the nominalization), the passive nominal apparently

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can be applied to any (inherently) transitive verb without exception. And the referent of the possessor and of the verb clearly follows (30) in every case:

(59) 'ayah ɬi:ta'ay mim-paša:-ka
very difficult 2POSS-bathe-PASS(NOM)
'Your bathing is very difficult (=It's hard to bathe you).'

(60) k-ɬitahun ki-ɬitapaca wa: mi-ɬi:stah-ka
1SUB-have(IMPF) 1POSS-work FOC 2POSS-care.for-PASS(NOM)
'I've got my work; it's the taking care of you.'

(61) ča:ni-y is-c'ak'a-ka cikleh
bore-IMPF 3POSS-chew-PASS(NOM) chicle (gum)
's/he is tired of chewing his/her gum.'

(62) 'iš-puš-ka kafe
3POSS-pick-PASS(NOM)
'the picking of coffee'

(63) 'iš-č'an-ka min-k'ispa
3POSS-sow-PASS(NOM) 2POSS-corn
'The sowing of your corn.'

(64) 'iš-'u:-ka ni wa:kaš
3POSS-eat-PASS(NOM) the meat
'The eating (=taste) of the meat.'

(65) 'is-c'oq-ka ni karta
3POSS-write-PASS(NOM) the letter
'The writing of the letter.'

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(66) 'iš-pu:škau-ka min-c'al

3POSS-look.for-PASS(NOM) 2POSS-boy

'The search for your son.'

Note also, as predicted by (30), the possessor of the passive nominal must be the undergoer, of the corresponding verb and the referent of the derived noun is the action.

The passive deverbal nouns consistently serve the function of syntactic recategorization rather than that of labeling. The only attested instance of a passive deverbal approximating a labeling function is the form with *u-*, 'eat(transitive)', as in (64), above. As noted there, *'uka* is the translation equivalent of the noun 'taste'; i.e., it has a narrowed reference in that it does not refer simply to the 'eating of X' (and so be able to refer to chewability, etc.), but specifically to the 'taste of X'.

4.2.3.4 Means, location deverbals

In Totonac the verbal prefix *pu:-*, as noted in chapter 2, generally marks the added argument as 'location'. This is also generally the case with the deverbal nouns (data from Reid, et al. 1974):

(67) a'kta'sana'n 'X gives a speech'

pu:'a'kta'san 'auditorium'

Also as noted in 2.3.1.1 and 3.1.1, in Totonac the occurrence of *pu:-* with nonderived nouns is more widespread than it is in Tepehua:

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(68) kafe 'coffee' pu:kafe 'coffee orchard'
se:'qna' 'banana' pu:se:q'na' 'banana orchard'
pa'šni' 'pig' pu:pa'šni' 'pigpen'
čaw 'tortilla' pu:čaw 'tortilla basket'

However, in its use with deverbals its 'locative' use often is indistinguishable from an 'instrumental' use:

(69) ca'pa' 'X sews it' pu:ca'pa'n 'sewing machine'
ciki 'X strains it' pu:cikin 'strainer'
špata 'X grinds it on a grinding stone'
pu:špatan 'grinding stone'

Nevertheless, in Totonac *pu:-* with deverbals is best considered as marking location rather than instrument. The primary marker of deverbal instruments in Totonac is *ɬi:-* rather than *pu:-*:

(70) špata 'X grinds it on a grinding stone'
ɬi:špatan 'pestle for grinding'
šaka 'X sharpens it'
ɬi:šaka 'whetstone'
co'qnu' 'write'
ɬi:co'qnu' 'pencil'
štoqo 'X punctures y'
ɬi:štoqon 'needle'

In Tepehua, on the other hand, the cognate prefix *ɬi:-*, as we saw above, has a different function with deverbal nouns.Deverbal instrumental nouns are instead primariliy marked by the prefix *pu:-* ~ *pa:-*:

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(71) ɬtanan walk/travel(IMPF) 'X walks.'	paɬtan vehicle
ɬi:stak-'a care.for 'X takes care of y.'	pu:ɬi:stakan weapon.for.defense
tama:-y lie.down-IMPF 'X lies down.'	pu:tama:n bed (in one subdialect)
tapa:ca:-y work-IMPF 'X works.'	pu:tapa:ca tool

As stated in (30), the highest-ranking macrorole (actor is the base is transitive, actor or undergoer if intransitive) is realized as the possessor of these deverbals; and the referent of the noun corresponds to the argument of the *pu:-* (or *pa:-*) prefix.

Recall from chapter 2 that with stative verbs *pu:-* (or *pa:-*) has as its argument the second argument of the predicate be.in'(x,y) or be.on'(x,y); and with non-stative verbs it has an argument with the semantic role of route (=VIA). Thus it isn't surprising that *pu:-* ~ *pa:-* appears with a number of deverbals in Tepehua with the referent (at least potentially) being a location:

(72) lani-y learn-IMPF	pu:lanin 'school, book'
ča'a:-y wash-IMPF	pa:ča'an 'washing trough; place for washing'
ɬtata-y sleep-IMPF	pu:ɬtata 'sleeping room'
c'oq-ya write-IMPF	pa:-c'oqni 'writing instrument' pu:-c'oqni 'desk'

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Recall also from chapter 2 that *pu:-* ~ *pa:-* has some limited use with verbs to mark a temporal relation, specifically, containment within a certain time period. With the nominalized *pu:-~pa:-* forms the function to mark location in time appears to be more common. Some *pu:-* ~ *pa:-* deverbals that allow or require temporal readings include the following:

(73) a.	'alin	po:'alin
	be,exist(IMPF)	time or season for X to exist
b.	'atunkuhun	po:'atunkuh
	sun.rise(IMPF)	noon
c.	me'oho-y	pu:me'on
	run.out-IMPF	time, season when X runs out
d.	'oqṡtama:-y	pa:'oqṡtaman
	hire-IMPF	time for hiring
e.	pa:'an	pu:pa:'an
	pass, get.over (festival)	time when festival is over
f.	qama:nan	po:qaman
	play(IMPF)	time for play (e.g.,Sunday)
g.	sa:-y	pa:sa:n
	hit/play(music)-IMPF	time for playing(music)
h.	ma:ṡawa:-y	pa:maṡawa:n
	burn(TRANS)-IMPF	time for burning (fields)

Note that though these nominalized forms with *pu:-* ~*pa:-* require a temporal reading, their corresponding verbal forms

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generally require a 'means' or 'instrument' reading. Thus compare the following two clauses with (73a) and (73c)

(74) ni k'ispa po:-'alin ška:n

ART corn VIA-exist water

'The corn exists by means of water.'

(75) wa: yu:ča pu:-me'o:-l ni caluk'u

FOC 3PRO VIA-run.out-PFV ART tortilla

'That's the way the tortillas ran out.'

I will return to this difference between the verbal and deverbal functions of *pu:-* ~ *pa:-* in a moment.

Note that some of these forms present a problem of derivational ordering. Recall from the discussion above that *pa:-* only occurs on intransitive verb forms. In (73d), (73g), and (73h), however, the base verb is transitive. There are a few possible solutions.

First, it might be suggested the verb is first nominalized and *pa:-* is added then not to a transitive verb but to a nominal. However, *pa:-* does not generally occur with non-derived nouns, rather it is found only with verbs and deverbals. Further, if this were the case, there would be no apparent way to account for the formally unique nominalization found with these deverbals, a uniqueness I will demonstrate below.

Second, one might propose a filter that blocks *pa:-* from occurring on transitive verbs (i.e., instead of subcategorizing *pa:-* to specifically occur only with intransitive verbs). The filter would apply after all word-

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formation processes have taken place. It would apply to verbs but the forms in (73) are nouns and and so wouldn't be blocked (cf. Halle 1976).

A third solution would be to have both the addition of the prefix and the nominalization be two parts of the same rule. This would mean having *pu:-* ~ *pa:-* apply to verbs with one set of constraints and apply in the nominalization process with a separate set. The verbal *pa:-* and the nominalizing *pa:-* would then be related in the lexicon through lexical redundancy rules.

Either the second or third alternative seem plausible at this point. However, apparent support for the third approach is the fact that *pu:-* ~ *pa:-* don't have identical functions with verbs and deverbal nouns (as noted above, with the contrast between *po:'alin* in (37a) and *'iš-po:'alin* in (74)). Note also that in such an account a distinct nominalization process would be required; i.e., we wouldn't be able to use a word-formation rule found with other deverbals (as we did with the nominalization processes for action nominals and object deverbals which involved application of the same rules). This prediction is compatible with the data, as the nominalization process for *pu:-* ~ *pa:-*deverbals requires a unique word-formation rule. Assuming with the third hypothesis that the prefixation of *pu:-* ~ *pa:-* is simultaneous with the nominalization, we can present the pertinent rules in a collapsed form (with the convenience of angled brackets and curly braces):

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$$(76)\quad V[\ X \begin{Bmatrix} \langle -VV \rangle \\ \langle\ -C\ \rangle \end{Bmatrix}\ ] \ \text{-->}\ N\ [pu:\ [\ X \begin{Bmatrix} \langle -VV \rangle \\ \langle -C\ \rangle \end{Bmatrix}]\langle -n \rangle]$$

$$[-nas]$$

That is, means-location deverbals involve the prefixation of *pu:-* (or *pa:-*) and, secondly, the suffixation of *-n* iff the base ends in a non-nasal consonant or in a long vowel. (Further independent rules of the phonology will result in an epenthetic [i] following the word-final -Cn sequence.) The truncation process common to all deverbals (32) also applies (though it is unordered with respect to (76) since they have different structural descriptions).

It isn't clear what determines whether a means-location deverbal will be marked with *pu:-* or with *pa:-*. For those few forms in which both are possible, there is sometimes a meaning differerence, such that the form with *pu:-* more clearly refers to a bounded space or object containing the action, thus more closely matching the image-schema discussed in 2.3.1.1:

(77) VERB	NOUN
c'oq-ya write-IMPF	pa:c'oqni writing instrument (pen, pencil, typewriter)
	pu:c'oqni desk, place for writing
ċa'a:-y wash-IMPF	pa:ċa'a:n place for washing (e.g., a spot on a creek)
	pu:ċa'a:n washing trough (or place for washing)

Further, the more productive form of means-location nominalization is that which occurs with *pu:-* rather than

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that which occurs with *pa:-*. Thus apparently novel forms, such as the one below, are only acceptable with *pu:-*:

(78) 'aq-soqo-y 'iš-po:-'aqsoqo
head-hurry-IMPF 3POSS-VIA-head-hurry
'X eats quickly.' 'instrument for eating quickly (e.g., a spoon)'

Nevertheless, in comparison with the nominalization processes presented in the preceding sections, the means-location deverbal nominalization is less productive, having far more gaps than any of the other deverbal processes. This suggests the forms are generally items that are simply listed in the lexicon and related by a semi-productive lexical redundancy rule. Such a conclusion is supported by two facts. First, as we have seen, the choice of *pu:-* or *pa:-* seems rather arbitrary. Second, more than all other nominalization processes in Tepehua, these forms serve a labeling function rather than a syntactic recategorization function. That is, in virtually every case they have a fixed set of referents, items that have a certain degree of cultural salience.

4.2.3.5 Agent and co-agent deverbals

Formation of agent nominals, like action nominals, only occurs on intransitive verbs; i.e., either inherently intransitive verbs or transitive verbs with the antipassive suffix, *-nVn*. And, again like action nominals, the presence of theantipassive suffix is somewhat disguised by the fact that like all deverbal nouns, there is a truncation of final

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nasals as presented in (32). To form an agent nominal this is then followed by a word-formation rule that lengthens a final vowel or adds a long vowel that agrees in backness and rounding with the preceding vowel (see Appendix):

(79) $_{N}[_{V[-trans]}[\ X(-n/)]]$ --> $_{N}[_{N}[\ X\ ]-VV]$

The following examples show the application of this word-formation process with transitive verbs bearing the antipassive suffix, *-nVn*:

(80)	st'a:-nan sell-AP(IMPF) 'X sells.'	(ha:)st'a:na: seller
	maqni:-nin kill-AP(IMPF) 'X kills.'	(ha:)maqni:ni: killer
	čaw-nan sting-AP(IMPF) 'X stings' or 'X practices witchcraft'	čawna: stinging.insect hačawana: witch

The same pattern, of course, is found with those lexically intransitive verbs that have the *-nVn* morpheme:

(81)	ła:či:mo'o:nun 'X rules.'	(ha:)ła:či:mo'o:nu: ruler/ town authority
	p'ałnan sweep(IMPF)	(ha:)p'alna: sweeper

An agent nominal formed on an intransitive verb base often, as expected, simply displays the word-formation rule in (79):

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(82) 'akča'an — 'akča'a:
be.jealous(IMPF) — a jelous one

łukuhła-y — łukuhła:
get.angry-IMPF — an angry one

skiti-y — skiti:
hand.grind(corn)-IMPF grinder

However, in the majority of such cases, the derived form is the same as if the base verb bore the *-nVn* suffix:

(83) ni:-y — ni:ni:
die-IMPF — dead one

soqo-y — soqonu:
hurry-IMPF — hurrying one

qałun — qałunu:
cry(IMPF) — crier

Presumably, such agent nominals form on analogy with the agent nominals of transitive verbs and of the intransitive verbs that have the *-nVn* suffix.

The co-agent nominals are simply formed on an agent nominal base by means of the same comitative-noun formation that was discussed in 4.2.1.2:

(84) [X] --> [t'a:[X]]
noun — noun(comitative)

The interpretation of the co-agent deverbal nominals, like that of the agent nominals, is extremely regular, as the forms below indicate:

(85) ' uču-y — 'iš-t'a:'uču:
fetch.water-IMPF — 3POSS-fellow.water-fetcher

łtanan — 'iš-t'a:łtana:
walk,travel(IMPF) — 3POSS-companion

č'an — 'iš-t'a:č'ana:
sow(IMPF) — 3POSS-fellow-sower

'ahin — 'iš-t'a:'ayna:
grow.up(IMPF) — 3POSS-one.grows/grew.up with

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tawla-y	'iš-t'a:tawlna:[1]
sit/dwell-IMPF	3POSS-neighbor
škahi-y	'iš-t'a:-la:škaya:
hate-IMPF	3POSS-REC-enemy

Though the last example may appear to be somewhat deviant (it's not clear that 'his/her fellow-hater' would mean 'his/her enemy'), this is the expected reading, given the occurrence of the reciprocal prefix (see 2.5).

The word-formation rule that derives agent nominals is very similar to the rule that forms the active infinitives discussed in 2.4.6. As shown there, whenever that rule serves such a purely syntactic recategorization function it may occur with the adverbial suffixes. However, when it serves a labeling function typical of agent nominals, designating the habitual activity of some referent, the adverbial suffixes do not co-occur.

adverbial suffixes do not co-occur

4.2.3.6 On interpretation and lexicalized vs. nonlexicalized forms

Only passing reference has been made thus far to lexicalized and nonlexicalized deverbal nominals. Admittedly, any attempt at so labelling the nominalized forms at this stage of investigation is tentative but I don't believe it's premature. There are numerous deverbals that occur with very high frequency in texts and conversations (some, in fact, are more frequent than the corresponding verb) and there are others that have been

[1]The apparent phonological irregularity with the form for 'neighbor' is due to the irregular stem, not to an exception to the rule.

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attested only through elicitation and result in varying judgments of acceptability among native speakers. Thus though there are forms that are difficult to categorize as either lexicalized or nonlexicalized there are clear examples at the extremes of the continuum.

The concern of this section involves two related notions: (1) to explore how we can best account (synchronically) for the interpretation of nonlexicalized forms; and (2) how we can account (diachronically) for cases where the meaning has been narrowed down to one or two meanings that are associated with the lexicalized forms. Nominalized forms such as those discussed in this paper are instances of what have been called 'contextuals' (Clark and Clark 1979, Aronoff 1980). They are shorthand or telegraphic expressions with phrasal paraphrases. As such, when these forms are interpreted in isolation, much of the information that is explicit in the phrasal paraphrase must be either invoked by the interpreter (Fillmore 1985:232) or specified as part of the lexical entry itself (in the case of lexicalized forms with narrow range of interpretation). A diachronic account would also need to explore how these latter forms have come to be associated with the specific interpretations they have.

The processes involved in the pragmatics of interpreting the less predictable forms presumably are the same as those used in interpreting other contextuals that have been discussed in the literature: noun-noun compounds

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in English (Zimmer 1971, Downing 1977) and German (Gu'nther 1981); zero-derived deverbals in English (Clark and Clark 1979); and German binomials (Lambrecht 1985). Zimmer's notion that a compound must be 'appropriately classificatory' to be used can also be applied in accounting not only for the production of such forms but also for the hearer's interpretation. This can be seen more clearly if we assume some version of semantics involving scenes or frames as suggested by Fillmore (e.g., 1977, 1985):

> whenever we pick up a word or phrase, we automatically drag along with it the larger context or framework in terms of which the word or phrase we have chosen has an interpretation. (1977:74)

Thus a verb brings along with it a scene including the action and the various animate and inanimate participants. Tepehua deverbals represent a process of making different components of that scene 'discourse manipulable' (Hopper and Thompson 1984, 1985) as nouns. Which components are so represented are those that are 'appropriately classificatory' or most salient. For more innovative, less lexicalized forms, this is largely a matter of salience in the immediate context. However, the forms that become lexicalized are more a reflection of cultural or cognitive salience as well as of what gaps exist in the lexical repertoire of the language.

Let's consider a few examples. When Tepehuas encounter the (relatively innovative) form *pu:ɬtata* out of context, they utilize both semantic details of the morphological rules as well as inference. They know it is a

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nominalization based on *ɬtata-y*, 'X sleeps' with the *pu:-* prefix. According to (30), the nominal must refer to the object of the prefix; this could then be the location of the event (spatially or temporally) or the instrument used to bring it about. The latter is ruled out since the usual reading of *ɬtata-y* is nonagentive and instrumentals require agents. It turns out that both spatial and temporal (since it is a cyclic event) are possible readings: 'bed' or 'sleep house' for the former and 'night-time' for the latter. The least likely reading is 'bed' since the lexical repertoirehas a separate term for this. (In the T.C. subdialect it is referred to by another deverbal *pu:taman* from *pu:-* + *tama:-y*, 'lie down'; in the Chint. subdialect by the unanalyzable *saqati*).

For a second example, consider the two highly lexicalized forms *ɬi:sa:n*, 'musical instrument' and *hasa:nti*, 'music' are deverbals from the ambiguous verb *sa:-y*, 'X hits y' or 'X plays (beats, strums, blows on) y (to make music)'. It is only the latter meaning that is related to these two nominals. The event of playing music is culturally salient enough that it has acquired a (lexicalized) noun. The only form that would most likely be so interpreted was the nonprefixed deverbal. The *ɬi:-* deverbal has come to designate another culturally salient category: the object of the playing/hitting, i.e., the musical instrument.

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When we compare an intransitive verb like *pa-lnan*, 'sweep', we find a very different situation. There is no object deverbal and the nonprefixed deverbal, *p'a-lnati*, refers simply to the (semantic, not syntactic) object of the action--the floor (presumably, the event itself was not salient enough (even in attempts at elicitation) to merit its own deverbal form).

As a final example consider the verb *pa:'an* (which is probably historically from *pa:-* + *'an*, 'go') which can mean either 'fade' (as the colors from a cloth) or 'pass by, be over' (as a fiesta or special day). The corresponding *pu:-* deverbal, by (30) must refer to the object of the prefix and so be interpreted as 'location' (temporal or spatial) or 'means'. The possessor of the deverbal corresponds to the subject of the tensed verb and immediately sets the correct frame for interpretation:

(86) 'iṡ-pu:-pa:'an ni laqč'i:ti

3POSS-PU-fade the cloth

'that which can be used to fade the color of the cloth'

'iṡ-pu:-pa:'an ni kat'an

3POSS-PU-pass the fiesta

'the period after the fiesta is over'

4.2.3.8 On productivity and function of Tepehua deverbals

In a recent article repeatedly referred to above, Kastovsky (1986) has argued for keeping two contrasts in mind when considering the productivity of morphological processes: productivity in the sense of rule scope vs.

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application rate. Related to this issue he also discusses the two complementary functions of word formation that I have been referring to --labeling and syntactic recategorization. Though rules that have a wide scope often are those that have a higher frequency of application, Kastovsky points out the correspondence isn't exact due to the two types of function of word-formation. The labeling function is, according to Kastovsky, tied to

> the real or at least imagined existence of a referent or class of referents which requires a label, which is why necessarily pragmatic factors at a certain level play an important role in connection with the productivity of word formation. (1986:594)
> And of course this is where pragmatic considerations such as the need for a label, cultural saliency, etc., also play animportant role. This explains why types [of word-formation] producing labels exclusively or predominantly are as a rule much less productive...(1986:597)

This function is that which relates to the means-location nominals discussed above, where pragmatic factors, cultural saliency and what labels already exist in the lexicon are so crucial.

The function of syntactic recategorization, on the other hand, serves the purposes of 'condensation of information, stylistic variation, and text cohesion including pronominalization' (595). The nominalization processes in Tepehua are most productive precisely when they serve the function of syntactic recategorization. Good examples of this are the agent and passive deverbals. As shown in 2.4.6, the Tepehua infinitive occurs in construction with verbs of motion and the existential,

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t'ahun, in the latter case the entire construction giving a progressive reading. And, as noted above, the word-formation rule for the agent deverbal also derives the active infinitive; and, likewise, the passive deverbal is identical to the passive infinitive:

(87) t'ahun st'a:na:
be(IMPF) sell
'X is selling.'

(88) 'an-kan 'iš-i:-ka gasolina
go-PASS(IMPF) 3POSS-get-PASS(NOM)
'gasoline is being gone for.'

It is important to note that the agent and passive deverbal nouns display a construction type that is distinct from that of active and passive infinitives. As shown in 2.5, the infinitive construction is an instance of nuclear juncture, whereas there is no juncture involved in the deverbal noun constructions. This brings up the importance of distinguishing between constructions and what Zwicky 1987 calls the 'formal concomitants' (FCs) of those constructions. One and the same FC -- here a word-formation rule -- is involved in the two distinct constructions of infinitives and deverbal nominals. Nevertheless, the point made above about the word-formation rule stands: it is perfectly productive precisely when it serves a syntactic recategorization function (including both infinitive formation and certain instances of deverbal nouns).

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In summary, the passives are the most consistent examples among Tepehua deverbals of what Kastovsky calls the syntactic recategorization function. The agent and co-agent deverbals serve a labeling function but also very frequently serve a syntactic recategorization function. These three classes are the most productive deverbalization processes in Tepehua (in the sense of having the least gaps and the least idiosyncratic interpretations).

The action nominals and the object deverbals also frequently have the function of recategorization and in such instances are widely productive. However, in many instances they serve as labels or designations with narrowed reference and hence manifest less productivity, including numerous gaps and less predictable semantics.

Finally, the *pu:-~pa:-* deverbals primarily serve Kastovsky's labeling function. And, as predicted, they are the least productive of the deverbal nominalizations.

There is clearly much work that needs to be done to confirm and expand the ideas presented here. Many of the forms here occur frequently and others are at least attested in texts. However, the data pertaining to the forms that are unattested in any texts or conversations are based on the reaction of one to three speakers to forms out of any context. In further studies experimental data relating to speakers' interpretations of deverbal nominals would be particularly helpful as would studies of the effect of context on shaping the interpretations.

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4.3 Noun inflection

The inflection of nouns in Tepehua only involves two rather straightforward processes: possession and pluralization. However, there are some interesting issues regarding the interaction between the two as well as the status of the morphemes as affixes or clitics.

4.3.1 Possession

Possession of nouns in Tepehua is marked by the following construction:

(89) POSS-HEAD (POSSESSOR)

As a typical head-marking language (Nichols 1986) the relation of possession is marked on the head noun rather than on the possessor (as is the case in dependent-marking languages such as European languages). The possessor is optionally specified by a full NP immediately following the head noun. That is, the construction is endocentric, the possessed head noun often occurring without the following possessor NP:

(90) 'iš-čaqa: ni ɬa:čimo'o:nu:

3POSS-house ART authority

'The authority's house.'

(91) 'iš-čaqa:

3POSS-house

'His/her house.'

The paradigm for marking possession on nouns is as follows:

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(92) PERS	SINGULAR	PLURAL
1	kin-	kin--k'an
2	min-	min--k'an
3	'iṡ-	'iṡ--k'an
(impers)	ṡa:-	ṡa:-

First, note that the marking of person and number of the possessor involves two distinct morphological processes: prefixation to mark person and the ending *-k'an* to mark plurality of possessor. Second, note that there is a prefix marking 'impersonal possessor' and that it does not occur with the plural possessor morpheme. This 'impersonal possessor' prefix is used for non-human and inanimate 'possessors' in this construction:

(93) ṡa:-čaqa: p'aṡni
IMPOSS-house pig
'A pig's house/pigsty.'

(94) ṡa:-presidensia 'akatahun
IMPOSS-presidencia Chicontepec
'The Presidencia of Chicontepec'

(95) ṡa:-lapana:k-ni laka:čaka:n
IMPOSS-person-PL Tlachichilco
'The people of Tlachichilco.'

The morpheme *k'an*, marking 'plural possessor', displays features of a clitic rather than those of a suffix. To be sure, it is highly selective with regard to its host (criterion A in Zwicky and Pullum 1983), occurring only on

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nouns, and in this sense operates like a suffix. However, there are three types of evidence that *-k'an* is a clitic

First, rules of post-lexical rather than lexical phonology apply in the context of *-k'an*. As shown in the Appendix, a standard phonological rule in the Tlachichilco dialect specifies that [k] becomes [h] preceding another [k] (or [k']) within the same word This rule does not apply, however, preceding the suffix *-k'an*. Thus compare the effect of the [k] of the passive suffix *-kan* and that of the plural possessive morpheme in the following examples:

(96) ɬi:stak -kan -ɬ --> ɬi:stahkaɬ

take.care.of-PASS-PFV

'X was taken care of.'

(97) ki-siwi:k-k'an

1POSS-vine-PLPOSS

'Our vine.'

Thus, a phonological rule of the lexical component does not apply in the context of *-k'an*. On the other hand, a post-lexical rule does. As pointed out in the Appendix, word-final short (and therefore stressless) vowels are voiceless in phrase-final position but are either pronounced or deleted in phrase-medial position. Of course, if such a short vowel is followed by a suffix it is no longer word-final and so cannot be deleted. However, if it is followed by a clitic, we would expect the vowel might still count as word-final and so be susceptible to the optional deletion

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rule. This is precisely what we find preceding the plural possessor morpheme *-k'an*:

(98) ki-stapu [kist pu] ki-stapu-n

1POSS-bean(s) 1POSS-bean(s)-PL

'My bean(s)' 'My beanfield'

ki-stapu-k'an --> kistapuk'an ~ kistapk'an

1POSS-beans-PLPOSS

'Our beans.'

cf. wa: stapu ka-'u-ye:-'i --> [ƀa:stapuku'uye'i] ~

FOC beans IRR-eat-FUT-2SUB [ƀa:stapku'uye'i]

'You'll eat beans.'

It can also be noted in the examples above that the lexical constraint against syllable-final /t/ or /p/ does not apply preceding *-k'an*.

A second source of evidence for the clitic status of *-k'an* is the fact that it occurs outside (i.e., attaches to) the clitic *-ċa* (see 2.4.6). This is strong evidence by most standards: In traditional grammar clitics are considered to apply after affixation, and, in recent work by Pullum and Zwicky (1988) this follows from a more general constraint on the syntax-phonolgy interface. Note the following examples:

(99) ki-nati-ċ-k'an

1POSS-mother-CH-PLPOSS

'Our (dear) mothers.'

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(100)kin-čaqa:-č-k'an

1POSS-house-CH-PLPOSS

'It's (already) our house.'

Finally, the analysis of *-k'an* as a clitic is supported by an otherwise peculiar constraint: it cannot co-occur with the clitic *-k'at'i*, 'you are', the form that is typically used in Tlachichilco to signify 'vocative'.[1] As a result, when addressing someone and specifying a relation between the addressee and the speaker, there is only one acceptable form available which serves regardless of the number of the possessor. Thus (101a), below, is potentially ambiguous since the more fully specified form in (101b) is unacceptable:

(101) kim-pay-k'at'i	*kim-pay-k'an-k'at'i
1POSS-father-you.are	1POSS-father-PLPOSS-you.are
'My/ourfather(voc)/ You are my/our father.'	'Our father./ You are our father.'

Now if *-k'an* were a suffix this fact would require a model in which suffixation is constrained by what clitic follows. Presumably some surface filter would have to be appealed to ruling out occurrences of the suffix *-k'an* followed by the clitic *-k'at'i*. However, assuming that *-k'an* is also a clitic, the constraint is more straightforward: *-k'an* and *-k'at'i*, in effect, fill the same clitic position and hence are mutually exclusive.

[1] Huehuetla has a distinct vocative morpheme that has no cognate in Tlachichilco: hi in clause-initial position.

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In summary, there is some 'skewing' of levels between the realization of features of person of possessor and the feature for number of possessor: The former are realized by prefixes and thus are an integral part of the morphology, while the latter is realized by a clitic and so behaves as a syntactic element.

This has some potential consequences for linguistic theory. In a model which requires a strict separation between all morphology (as part of a distinct word-formation component) and syntax these facts might present some difficulty. Featuresreferring to the person of the possessor would be 'lexical' features while features referring to the number of the same possessor would be 'syntactic' features. However, in a model in which inflectional morphology interacts with the syntax (e.g. Anderson 1971, 1982) or in which the barrier between word-formation and syntax is effectively broken down (e.g. Sproat 1985), such facts should not be troublesome. The facts regarding the specification of person and number of possessor simply demonstrate distinct realizations of purely syntactic features.

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4.3.2 Plural formation

The morpheme specifying plurality on nouns is the suffix *-n*. When it follows a consonant it has an epenthetic [i]: *-in*.

(102) BASE		PLURAL
'a:hu:ki	'deer'	'a:hu:ki-n
čaqa:	'house'	čaqa:-n
ša:nati	'woman'	ša:nati-n
k'iw	'tree'	k'iw-in
čiyuš	'stone'	čiyuš-in

There is a closed class of forms in the Tlachichilco dialect that present something of an exception to the above rule of plural formation. These are a small subset of those nouns that end in *-Vti* in the singular. Apparently it is precisely that subset in which the final [i] is epenthetic Assuming this is the case, the only exceptional behavior with these nouns is that rather than the plural suffix being preceded by an epenthetic [i] (as in the consonant-final stems in (102), above), it is followed by an epenthetic [a]. As is generally the case in the Tlachichilco dialect, then, the stem-final [t] must 'weaken' to a [k] since it ends up in syllable-final position (see Appendix). These facts give rise to the following alternations:[2]

[2] In each case, the standard rules for stress assignment result in the antepenult receiving stress in the singular forms (actually the penultima before epenthesis of [i]) and the penultima receiving stress in the plural forms, the -na suffix being voiceless.

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(103) BASE		PLURAL
ċ'ankati	'sugarcane'	ċ'ankakna
ho'ati	'man'	ho'akna
taɬi:cukuti	'animal'	taɬi:cukukna
ṡta'a:ti	'petate'	ṡta'a:kna

This set of forms with *-ti* ~ *-kna* alternations between singular and plural endings does not include the many deverbals ending in *-ti* (with epenthetic [i]) since these do not regularly undergo pluralization.

This brings us to a more general issue: When is the plurality of a referent specified by a plural suffix and when is it unmarked? As is often the case when dealing with the function of linguistic forms, there are clear, consistent principles at the extremes (do vs. don't mark plural) and more variation with intermediate cases.

First, plurality of referents is never marked on mass nouns and deverbal action nominals (as noted above). This includes forms such as the following:

(104)kukuh	'sand'
t'un	'dirt, land'
k'ispa	'corn (kernels)'
macati	'salt'
c'a:luk'u	'tortilla(s)'
skititi	'corn dough'
haɬiki	'paper'
ṡka:n	'water'

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and, of course, many more. When the plural suffix occurs on a fruit or crop, the noun refers not to a simple plurality of objects but specifically to a field where such objects grow:

(105)

BASE		'PLURAL'	
stapu	'bean(s)'	stapun	'beanfield'
'ala:šuši	'orange(s)'	'ala:šušin	'orange grove'
p'in	'chile(s)'	p'inin	'chile field'
ha:ka	'banana(s)'	ha:kan	'banana grove'

At the other extreme, human referents are virtually always specified for number as are highly animate animals. Nouns referring to other animals and inanimate objects may be specified for number, but often the only specification for plurality in such cases is found elsewhere: most often on the verb, though it may be on a numeral or plural prefix on an adjective:

(106)a. ta-min-ta pu:ma:-luw lapana:k-ni
3SUB,PL-come-PF CLAS-many people-PL
'A lot of people are coming.'

b. maqtali:-n ta-'u-y piyu:
wildanimal-PL 3SUB,PL-eat-IMPF chicken
'Wild animals eat chickens.'

c. laq-maqni:-ɬ la:-t'uy capul- / capul-in
3PLOBJ-kill-PFV CLAS-two snake / snake-PL
'X killed two snakes.'

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d. maka:ɬ 'aqs̓-t'uy ma:ti:

make-PFV CLAS-two door

'X made two doors.'

In (a), the noun *lapana:ki*, 'person', must be specified as plural if it has a plural referent. In (b) the subject is more likely than not to be specified for number. In (c) the object is specified for plural on the verb, though only optionally so on the NP, while in (d) it would be very odd to specify the plurality of the doors by suffixing *-n*.

The specification of plurality, then, is determined by a hierarchy of the sort discussed in Silverstein 1976 and Comrie 1981:

(107)Hierarchy for specification of plurality on NP:

always specified rarely specified

human ------- non-human animate ------- inanimate

4.4 Definite articles: ni, yu:

The Huehuetla dialect of Tepehua has only one definite article, *hu:*, cognate to the Totonac article *wan*. In Huehuetla this *hu:* is also used as the relative pronoun in both headed and headless relative clauses. The complementizer, on the other hand, is *ni*, a form that not only introduces direct complements but conditionals and other subordinated clauses.[3]

[3] Conditional clauses in the Tlachichilco dialect area are marked by *'inka*, 'if', quite clearly a form coming from Nahuatl *intli*.

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In the Tlachichilco dialect area, however, there are two definite articles, one which also functions as the relative pronoun, *yu:*, and the other which also functions as the complementizer, *ni*. Their usage on the clause level is clearly distinct. Compare the following instances in which *yu:* initiates a headless relative clause and ni introduces a complement clause:

(108)qasmak-l-i yu: naw-l-
hear-PFV YU say-PFV
'X heard what Y said'

(109)qasmak-l-i ni naw-l-
hear-PFV NI say-PFV
'X head that Y said Z.'

However, distinguishing their functions as determiners within the noun phrase is much more difficult. In this section I will present some of the pertinent facts and suggest an analysis.

First, it should be made clear that NPs marked with *ni* or *yu:* are always referential, specific, and have identifiable referents. Following the definitions of these terms as given by Dubois 1980, we can make the following summary. Non-referential nouns (those which are not 'used to speak about an object as an object, with continuous identity over time') in Tepehua regularly occur with neither a definite article nor a numeral. When body parts, they are often incorporated in the verb Non-referential nouns include those used predicatively:

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(110)yu:ča va: 'ay lapana:ki

3PRO FOC big person

'X is a big (important/powerful) person.'

Referential nouns with nonspecific referents usually occur as bare nouns (111). Indefinite nouns with specific referents generally occur with the numeral *tam*, 'one', with the appropriate classifying prefix (112):

(111)min-ta-ča lapana:ki

come-PF-already person

'Someone's coming.'

(112)k-laqc'iɬ qen-tam lapana:ki

1SUB-see-PFV CLAS-one person

'I saw a person.'

Identifiability (as a relation the speaker expects the hearer to be able to establish between the NP and its referent) is generally a characteristic of any possessed noun phrase and/or a noun phrase with one of the two definite articles, *ni* or *yu:*. Such NPs are typically identifiable in the sense of being either endophoric (referring to something in the linguistic context) or exophoric (referring to something in the extra-linguistic context) (Halliday and Hasan 1976). From here on the facts become somewhat murkier but I will present the views I currently hold in this area where more extensive research is necessary.

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First, I should mention that not every NP with *ni* has a strictly identifiable referent. Specifically, such a construction can have a generic function:

(113)ni škita yu:ča ha:ntu tapaca:-y, va:mun 'an pu:škaw-na:
ART bat 3PRO NEG work-IMPF just go(IMFP) search.for-INF
wa:kaš ta'an ta-tama:-y pu:c'i:sta
cow where 3PLSUB-lie.down-IMPF night
'The bat, it doesn't work, it just goes looking for cattle where they lie down at night.'

However, when not used in a generic sense, an NP with *ni* will have an identifiable referent.

Second, a possessed NP in Tepehua is not necessarily identifiable. The discourse function of a possessed NP is clearly different in Tepehua from that found in English or Spanish. This is most obvious from the fact that definite articles may or may not precede a possessed NP in Tepehua Compare this opening sentence from a Tepehua story with its counterpart in the English translation:

(114) qen-tawn s'at'a va: yah kiɬpa:tini: 'iš-hun-i:ta wa: ha:ntu-č
CLAS-one child FOC very poor PT-become-PF FOC NEG-already
'iš-ɬi:t'ahun 'iš-pay, wa:mun 'iš-nati 'iš-ɬi:t'ahun
PT-have(IMPF) 3POSS-father, only 3POSS-mother PT-have(IMPF)
'A child was very poor, he no longer had a father, he only had a mother.'

Here the first mention of a character in English narrative is typically indefinite, requiring the article *a* before not only *child* but also before *father* and *mother*; use of a

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possessive pronoun before either of these would establish them as 'identifiable'. In Tepehua, however, a possessed NP does not necessarily signal an identifiable referent. The possessive construction is always used in first (or any other) mention of a participant if that participant is referred to by a term which marks his/her relationship to another participant (and if that relationship can be morphologically marked by possession). This is strikingly different from languages such as English or Spanish where initial mention is typically unpossessed, even if the noun is a kinship term.

A possessed NP in Tepehua, then, is not necessarily identifiable; it can have a function like that of indefinite NPs in English. However, in Tepehua it can be explicitly marked as identifiable by hu in the Huehuetla dialect or by one of the two articles, *ni* or *yu:* in the Tlachichilco dialect. The contrast in the Tlachichilco dialect between the two articles appears to be something like the following:

(115)Use *yu:* when specifying an identifiable referent from among a set of identifiable referents of the same class; use *ni* elsewhere when specifying an identifiable referent.

Consider the following excerpt from a rather long text written by one of my Tepehua consultants:

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(116)'is-ta-cuku-y ha-sa:-nan mero
PT-3SUB,PL-begin-IMPF HA-hit-AP(IMPF) really

la:='iš-pakl-tawn ni laka:=kuštu porke 'anča
PREP=3POSS-half-one ART PREP=cornfield because there

'iš-ta-maka:-y ni 'iš-me:sah-k'an, 'iš-ta-maqayu:-y
PT-3SUB,PL-make-IMPF ART3POSS-table-PLPOSS, PT-3SUB,PL-stand-IMPF

ni kurus, tus ošì 'iš-ta-šanti-maka:-y
ART cross, PREP good PT-3SUB,PL-flower-make-IMPF

kun ni pulkišanti kun p'uč'ukč'uk. 'eš 'anča
with ART cenpasučil with flor de Junio. then there

'iš-ta-ma:knu:-y ni 'iš-halanu:ti ni t'ahni: kun ni
PT-3SUB,PL-bury-IMPF ARt 3POSS-heart ART turkey with ART

'iš-č'an-'eley, yu: halanu:ti yu:ča wa: š-li:-to'oya:-kan
3POSS-foot-claw , ART heart 3PRO FOC PT-DIR-honor-PASS

ni laka:=t'un wa: para ošì ka-štaq-łi ni ha:-šqanti,
ART PREP=ground FOC for good IRR-give-PFV ART HA-harvest

čavay yu: 'iš-čaha: ni yu:ča wa: nawn-putun wa: p'a:s
now ARt 3POSS-foot ART 3PRO FOC say-DESID(IMPF) FOC strong

ka-t'ač'ata-ł ni šawti wa: para ha:ntu
IRR-make.root-PFV ART corn.plant FOC for NEG

ka-maqta-ł ni 'un ni kan lakšiwi-y.
IRR-knock.down-PFV ART wind NI when sway-IMPF

'They would go on playing music right in the middle of the cornfield, because that was where they set up their table. They stood up the cross there and they decorated it really nice with the cempasučil flower and the flor de Junio. Then there they would bury the turkey's heart with its claw. The heart was to honor the ground so that it would give a good harvest; and now its foot, it meant that the cornplant would grow good roots so that it wouldn't be knocked over by the wind when it swayed back and forth.'

In each case, both the *ni* NPs as well as the *yu:* NPs have referents that have been established previously in the discourse, i.e., they're identifiable. It's clear in this example that the more common (and unmarked) form of the definite article in Tlachichilco is *ni*. The two occurrences of *yu:* occur precisely in the case in which the speaker is

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distinguishing one member of an established set of items. This function of *yu:* is no doubt related to its use as the 'relative pronoun' used in forming (restrictive) relative clauses, a topic I'll discuss briefly in the following section.

4.5 On relative clauses and complementation

As already noted, the two forms that function as definite articles in the Tlachichilco dialect also serve other functions: *ni* as the complementizer and *yu:* as a relative pronoun.[4] Before going further, note the following sructures proposed in RRG for complementation and relative clauses (from Van Valin, lecture notes, 1988):[5]

[4] The relative pronoun *yu:* (which, as we've seen also functions as one of the definite articles) is clearly related to the third person free pronoun, *yu:ca* While the independent pronoun virtually always has the enclitic *-ca*, it sometimes occurs without it.

[5] I'm ignoring (since its not directly relevant here) the operator projection and just displaying the constituent projection.

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(117) Complementation:

```
        SENTENCE
           :
         CLAUSE
           :
          CORE
           :
 ARG   NUC   ARG                  ARG

 NP   PRED    NP      COMP----->CLAUSE

 N      V     N

John  told  Mary    that        CORE <-----PERIPHERY


                          ARG      NUC   ARG       ADV

                          NP       PRED   PP        late

                         PRO        V

                         he will arrive

                                       NUC   ARG

                                       P      NP

                                       at   the party
```

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(118) Relative clause:

```
SENTENCE
 CLAUSE
  CORE
ARG  NUC    ARG
 NP PRED     NP
PRO          N <------CLAUSE
 I know the man
                 PCS     CORE  <-----PERIPHERY
                 who
                      ARG    NUC
                      NP     PRED       ADV
                      N       V
                    Fred     saw      yesterday
```

The key feature to note here is the relative positions of the complementizer and the relative pronoun: the former is outside the clause, as an operator over the clause; and the latter is within the clause (but outside the core) within the pre-core slot (PCS).

Now consider the following data The focus marker *wa:*, though not discussed in any detail here, has appeared in numerous examples. While it may occur preceding any element in the clause, it most frequently directly precedes the verb However, when it puts an argument of the verb in focus, that NP regularly precedes the verb, occurring in the pre-core

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slot.[6] Since the PCS is the position established for focused NPs in this model, I will assume that the focus marker also occurs within the PCS whenever it is pre-verbal.

(119) ki-hun-i-ɬ ni ha:ntu ka-min-čoqo-ya:

ki-tell-DAT-PFV CMPL NEG IRR-come-RET-FUT

'X told me that he won't come back.'

```
SENTENCE
   |
 CLAUSE
   |
  CORE
   |
ARG  NUC  ARG                ARG
NP  PRED   NP     COMP----->CLAUSE
PRO   V    PRO
0    hun   ki-    ni         CORE <-----PERIPHERY


                        ARG      NUC
                        NP       PRED
                       PRO        V
                        0-   ka-min-čoqo-ya:
```

[6] The pre-verbal position, which is generally the focus position in Tepehua is analyzed here as outside the core. This is due to the fact that in Tepehua the subject and object arguments occur on the verb, rather than as independent elements (as in English). See Van Valin 1987 for a discussion of the same feature in Lakhota Note also that a focused element can occur post-verbally, but this is a marked construction, generally accompanied by a separate intonation contour.

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(120)k-un-a:-n (wa:) yu: tapasa-ɬ

1SUB-tell-IMPF-2OBJ (FOC) REL happen-PFV

'I'm telling you what happened'

```
     SENTENCE
      CLAUSE
       CORE
   ARG  NUC ARG   ARG
       PRED        NP
   PRO      PRO    N <------CLAUSE
    k-  hun  -n    0-
                    PCS     CORE  <-----PERIPHERY
              (FOC)  yu:
                         ARG    NUC
                         PRO    PRED
                                 V
                         0-    tapasa-ɬ
```

Now consider the following forms, the last of which is ungrammatical:

(121)a. qasmak-ɬi yu: hun-i-n 'X heard what Y told you.'

hear-PFV ART tell-DAT-2OBJ

b. qasmak-ɬi ni hun-i-n 'X heard that Y told you it.'

c. qasmak-ɬi wa: hun-i-n 'X heard FOC Y told you it.'

d. qasmak-ɬi ni wa: hun-i-n 'X heard that FOC Y told you it.'

e.qasmak-ɬi wa: ni hun-i-n 'X heard FOC that Y told you it.'

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f.qasmak-łi wa: yu: hun-i-n 'X heard FOC what Y told you.'

g.*qasmak-łi yu: wa: hun-i-n 'S heard what FOC Y told you.'

Given the diagrams above, the account of these forms is as follows. The sentences in (a) and (b) are examples with headless relative clause and a clausal complement, respectively. In (c) we see an example of a clausal complement with the focus marker and without the complementizer. In (d) the complementizer is present and the pre-core slot of the complement sentence has the focus marker *wa:*. In (e) the post-verbal argument of the main verb (the clausal complement) is in focus (with a separate intonation contour; see fn.6). In (f) again a post-clausal argument is in focus, this time containing the relative clause. In the subordinate clause in (g) we have an example of a clause in which the pre-core slot is already filled by *yu:*; if the focus marker is to occur it must precede the relative pronoun in the PCS rather than follow it within the core.

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5. Prepositions and relational nouns

There are two prepositions native to Tepehua, one specifying location (*laka:*) and the other specifying extent (*tus*). Several Spanish prepositions, especially *con*, *por*, *para*, and *hasta* are also frequently used. Beyond this Tepehua has numerous constructions which correspond to what Mayanists call 'relational nouns' (following work by Terrence Kaufmann). These are largely possessed body part terms used in various spatial domains by means of a metaphorical mapping. In this chapter I will present aspects of the form and function of the various constructions in which prepositions and relational nouns occur.

5.1 Location: laka:

The preposition *laka:* is a general locative marker which cliticizes onto the head noun of the NP. It may precede the noun whose referent is the source, goal, or locative argument:

(1) a. taštu-ɬ laka:=pa:č'in
exit-PFV PREP=jail
'X got/went out of jail.'

b. tanu:-ɬ laka:=pa:č'in
enter-PFV PREP=jail
'X went into jail.'

c. wi:ɬ laka:=pa:č'in
sit(IMFP) PREP=jail
'X is (sitting) at/in jail.'

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While the vast majority of the occurrences of *laka:* specify a spatial location, it can also specify a temporal 'location':

(2) tapa:tsa:-y laka:=hulčan

work-IMPF PREP=day

'X works during the day.'

The argument of the preposition *laka:* can also at times be expressed as the argument of one of the valence-increasing prefixes discussed in 2.3.1.1. As noted there, a valence-increasing prefix can occur in a construction that is a paraphrase of a construction with the preposition *laka:*; and, further, this preposition may occur in the same construction with a valence-increasing prefix:

(3) a. mi-ɬ laka:=hu:ki

come-PFV PREP=horse

'X came on a horse.'

b. pu:-mi-ɬ hu:ki

VIA-come-PFV horse

'X came on a horse.'

c. pu:-mi-ɬ laka: hu:ki

VIA-come-PFV PREP horse

'X came on a horse.'

(4) a. ya:ɬ laqa:=čaqa:

stand PREP=house

'X is standing at the house.'

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b. ɬi:-ya:ɬ ni čaqa:

DIR-stand ART house

'X is standing toward the house.'

c. ɬi:-yaɬ laqa:=čaqa:

DIR-stand PREP=house

'X is standing toward the house.'

Clauses in which one argument is assigned semantic features from both the valence-increasing prefix and the preposition are simply instances in which the features of both are compatible; i.e., can be unified.

This preposition does not usually occur preceding nouns that can be considered inherently locative. This includes place names:

(5) 'a-ɬ laka:=kuṡtu

go-PFV PREP=cornfield

'X went to the cornfield.'

(6) 'a-ɬ Me:ṅiko

go-PFV Mexico

'X went to Mexico.'

This also includes a number of nouns which have lexically incorporated *laka:*, usually in some kind of reduced form. I will return to this point below.

As I mentioned above, the preposition *laka:* is a clitic. It does not, however, simply cliticize onto the first member of NP; rather it cliticizes onto the head noun.

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(7) tawk'a-y ni laka:=ka:roh (*tawk'ay laka:=ni ka:roh)
get.up-IMPF ART PREP=car
'X gets up on the car.'

(8) ya:ɬ ni ančanu: laqa:=čaqa: (*yaɬ laka:=ni ančanu: čaqa:)
stand ART that PREP=house
'X is standing at that house.'

(9) 'a-ɬ ni laka:=skwe:lah (*'aɬ laka:=ni skwe:lah)
go-PFV ART PREP=school
'X went to the school.'

Note that as a clitic, it undergoes the (lexical) phonological rule of velar-uvular assimilation (see Appendix). Further, it displays a unique allomorphy: the reduced form, *la:* occurs preceding a personal possessive prefix, the full form, *laka:* occurring elsehwere:

(10) la:=kin-kuštu 'to/at/in/from my cornfield'
la:=min-kuštu 'to/at/in/from your cornfield'
la:='iš-kuštu 'to/at/in/from his/her cornfield'
laka:=kuštu 'to/at/in/from cornfield'

The rule accounting for this allomorphy is completely determined by the morphological environmnent.

Assuming with most current linguistic theories that the preposition is the head of the phrase, what we have here is quite distinct from either the head-marking or dependent-marking constructions discussed by Nichols 1986. Rather, the head migrates to the head of its complement phrase.

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Finally, it should be noted that in a number of cases the cliticization of the preposition onto a noun has resulted in a new lexical item. That is, the preposition has 'fused' with the noun. This can be seen by the fact that the possessive prefixes on such forms precede *laka:* (or its reduced form) rather than follow it (as in the cases above). All of these instances involve significant place names:

(11) laka:k'awin 'forest'

cf. laka: k'iw-in 'to/at the trees'

PREP tree-PL

(12) laka:tahtan 'church'

cf. ma:-tahtan-i:-wa:-y 'X blesses Y'

CAUS-??-DAT-WA-IMPF

(13) laqšqa:tih 'creek'

(14) lakška:n 'body of water'

cf. ška:n 'water'

(15) la:'aška:n 'river'

(16) lakɬi:tamaw 'market'

cf. ɬi:tamo:nun 'X buys/shops'

Like proper place names these forms are inherently locative and so may not be preceded by the preposition *laka:*.

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5.2 Extent: tus

The only other native preposition in Tepehua is *tus*, which marks its complement as the spatial or temporal extent of the state or event.

First, it should be pointed out that unlike *laka:*, tus does not cliticize onto the head of its complement NP; rather it precedes the entire NP:

(17) k-laka-ča'an tus ni ančanu: k'iw
1SUB-eye-arrive.there(IMPF) PREP ART that tree
'I can see as far as that tree.'

Now compare the following uses of tus with the preposition discussed above, *laka:*:

(18) a. 'a-ɬ la:=kin-čaqa:
go-PFV PREP=1POSS-house
'X went to my house.'

b. 'a-ɬ tus kin-čaqa:
go-PFV PREP=1POSS-house
'X went to/as far as my house.'

(19) a. 'a-ɬ la:=kin-čaqa: pero ha:ntu ka-ča'a-ɬ
go-PFV PREP=1POSS-house but NEG IRR-arrive.there-PFV
'X went to(ward) my house but didn't arrive.'

b.*'a-ɬ tus kin-čaqa: pero ha:ntu ka-ča'a-ɬ
go-PFV PREP=1POSS-house but NEG IRR-arrive.there-PFV
'X went to/as far as my house but didn't arrive.'

The forms in (18a) and (18b) are rough paraphrases of each other, often applicable to the same event. Use of the preposition *laka:* with a motion verb as in (18a) does not

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make it explicit that the goal is reached, but such is usually understood by implicature. However, unlike (18a), (18b) with *tus* expresses the extent of the motion, thus affirming that the subject arrived at the stated goal. This is clearer in the examples in (19), where the implicature of arriving that is present in the first clause of (19a) is clearly defeasible. However, the sentence in (19b) is anomolous since the preposition tus expresses the extent of the motion; when this is combined with a motion verb in perfective aspect, the resulting clause states that the subject did arrive at the goal, (hence causing the second clause of the sentence to be a contradiction).

The importance of the verb aspect in the final reading can be appreciated by comparing the following fully acceptable sentence with (19b):

(20) 'iṡ-'an-ta tus kin-čaqa: pero ha:ntu ka-ča'a-ɬ
PT-go-PF PREP 1POSS-house but NEG IRR-arrive.there-PFV
'X was going as far as my house, but didn't arrive.'

As noted in chapter 2 (2.1.1 and 2.4.1), the motion verbs *'an*, 'go', and *min*, 'come', form a special subset of achievement verbs. When occurring in the perfect aspect, they display the behavior of other achievement verbs, having a stative or 'present tense' reading. The perfect aspect has the effect of erasing the operator BECOME on the first part of the verbs semantic structure:

(21) BECOME [NOT be.at'(x,y)] & BECOME [be.at'(x,z)] -->
[NOT be.at'(x,y)] & BECOME [be.at'(x,z)]

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Thus the sentence in (20) is acceptable with the reading in which X left a certain location intending to arrive 'as far as' a second location but never actually arrived. On the other hand, the perfective aspect treats the entire event represented in the LS as a total unit. Hence with its standard past reading, it is contradictory to say one went 'as far as' a certain point but never arrived there.

Although *tus* marks 'extent', it doesn't always simply substitute for the corresponding prepositions in English and Spanish, *until* and *hasta*. More specifically, while it parallels the corresponding constructions in English and Spanish in its spatial use, it differs from them in its temporal usage. The most striking example of the contrast between the Tepehua construction and the Spanish/English constructions is the fact that tus does not occur felicitously with a negated predicate. Thus the following sentence in Tepehua is not the correct construction for expressing the content of the English sentence:

(22) ha:ntu ka-č'an-a: tus Junio
NEG IRR-plant-FUT PREP June
'X won't plant until June.'

The Tepehua translation equivalent of the above English sentence lacks the negation:

(23) ka-č'an-a: tus Junio
IRR-plant-FUT PREP June
'X won't plant until June.'

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That is, though the clause is not negated, it is understood that the event or state predicated by the clause will *not* take place until the time specified by the complement of *tus*. Further examples follow:

(24) ka-k-tapa:ca:-ya: tus miš-tuhun
IRR-1SUB-work-FUT PREP CLAS-seven
'I won't work until a week from now.'

(25) ka-st'a:-ya: tus laqa-taun maɬkuyu:
IRR-sell-FUT PREP CLAS-one month
'X won't sell it until a month from now.'

When the negative does occur preceding a clause with a *tus* phrase, it has the entire clause within its scope:

(26) a. *[ha:ntu ka-č'an-a:] tus Junio
b. ha:ntu [ka-č'an-a: tus Junio]
NEG IRR-plant-FUT PREP June
*'[X won't plant] until June.'
'It's not the case that [X won't plant until June].'
(i.e., 'X will plant in May.')

Compare this with the locative use of *tus*. Here the action predicated by the clause (or by a subpart of its logical structure) occurs continuously until the point denoted by the complement of *tus*:

(27) ki-ma:laqača:-ɬ tus lakačaka:n
1OBJ-send-PFV PREP Tlachichilco
'X sent me all the way to Tlachichilco.'

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There is, then, an apparent discrepancy between the temporal and spatial uses of *tus*, one that suggests the following diagrammatic representations:

(28) temporal use:

```
                    tus X
          -------------¦ Predicate
```

spatial use:

```
                    tus X
          -------------¦
           Predicate
```

That is, in its temporal use, it signifies that the predicate does not hold true until the (temporal) point denoted by the complement of tus. In its spatial use, on the other hand, it seems to signify that the action or state predicated occurs up to the (locative) point denoted by the complement of *tus*. There may be, however, a means to account for these two interpretations, assuming Dowty's lexical decomposition. I will try to show that we can then ascribe the difference not to two different logical structures for tus but to two different scopes, each of which follow from the logical structure of motion verbs (which occur with spatial use of *tus*) and non-motion verbs.

Let's assign tus the semantic structure BECOME be.at'(x,y). For all clauses with motion verbs, this predicate involves arguments that are specified in the meaning of the verb (at least as part of its implicature): the theme and the goal. By themselves, verbs of motion in

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Tepehua do not strictly specify whether the goal is reached, though there is a strong implicature that it is. The *tus* phrase makes this more than a matter of implicature as was shown in (18) and (19). The important point to note, however, is that the complement of *tus* is an indirect argument of the verb of motion: i.e., in RRG terms, it is an indirect core argument.

When we turn to the temporal use of *tus*, however, this cannot be the case. There is no argument position corresponding to a point in time in the logical structure of a verb. The *tus* phrase is, then, a constituent not of the core but of the periphery, yet with the same logical structure as that given above: BECOME be.at'(x,y). Now, however, as part of the periphery, the arguments that fill the positions are of a very different sort: *x* must be the event or state predicated by the clause and *y* the location in time.

If we assume that cross-linguistically something like BECOME be.at'(x,y) is the logical structure of prepositions denoting extent, the variation found between the interpretation of Spanish *hasta* and Tepehua *tus* can be accounted for in rather simple terms: in Spanish, the conditions specified by the core precede the time specified by the *hasta* phrase; in Tepehua, the time specified by the *tus* phrase precedes the conditions specified by the core:[1]

[1] We could even specify the same logical structure for both as simple conjunction of the logical structure specified by the core with the logical structure specified by the PP. The temporal ordering would then be a matter of conventional implicature.

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(29) Spanish: CORE > (hasta)_____

Tepehua: (tus)_____ > CORE

Note that this analysis predicts that it should not be possible to find a similar cross-linguistic variation in interi pretation of the spatial use of prepositions of extent such as hasta and tus. In their spatial use they occur with verbs of motion and map into the logical structure of the core rather than occurring as peripheral elements. A variation in ordering like that found in the peripheral (temporal) use of extent phrases, then, would not be possible.

5.3 Relational nouns

As is common in Mesoamerica (and in many other parts of the world), spatial relations in Tepehua are often specified by possessed body parts that have a preposition-like function. As noted by Nichols 1986 this may often be the historical source of head-marking patterns in prepositional phrases.

Note the following examples:

(30) a. 'iš-'ukšpu: ni čaqa:

3POSS-face ART house

'The front of the house.'

b. 'iš-'ukšpu: ni me:sah

3POSS-face ART table

'The surface of the table.'

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c. 'i-stapu: ni čaqa:

3POSS-back ART house

'The back of the house.'

d. 'iṡ-kiɬ ni čaqa:

3POSS-mouth ART house

'The door of the house.'

e. 'iṡ-'ukṡni ni čaqa:

3POSS-top/peak ART house

'The peak of the house.'

d. 'iṡ-č'aha: ni 'aspahun

3POSS-foot ART mountain

'The foot of the mountain.'

Other parallel forms are derived from adverbs by prefixation of *ɬi:-*. These also bear the possessive prefix but have no corresponding use as body parts:

(31) a. 'a-ɬ maqspa:

go-PFV outside

'X went outside.'

b. 'a-ɬ ṡ-ɬi:-maqspa: ni čaqa:

go-PFV 3POSS-DIR-outside ART house

'X went to the outside of the house.'

(32) a. ya:ɬ to'anta

stand(IMPF) below

'X is standing down below.'

b. ya:ɬ ṡ-ɬi:-to'anta ni skwe:lah

stand(IMPF) 3POSS-DIR-below ART school

'X is standing down below the school.'

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(33) a. te-'en pa:što'anta

TI-go(IMPF) above

'X is going on up above (uphill/toward highlands).'

b. te-'en iš-ɬi:-pa:što'anta ni skwe:lah

TI-go(IMPF) 3POSS-DIR-above ART school

'X is going on above the school.'

Finally, there is another term that could be considered a third 'true' preposition (i.e., in addition to laka: and tus) except that it manifests (what is at least historically) the possessive prefix, *'iš-*: *štuntaw*, 'below'.

(34) pa:tahu:-ɬ štuntaw ni me:sah

fall-PFV below ART table

'It fell below the table.'

Note that in the cases of the forms derived from locative adverbs as well as in the case of *štuntaw*, the preposition *laka:* is not required to precede the phrase. This is in contrast with most instances of the possessed body-part forms. They are regularly preceded by *laka:* (or, rather, the allomorph *la:*, since it precedes a possessive prefix):

(35) ya:ɬ la: 'iš-'ukšpu: ni skwe:lah

stand(IMPF) PREP 3POSS-face ART school

'X is standing at the face of (in front of) the school.'

(36) tawk'a-ɬ la: 'iš-'ukšni ni čaqa:

get.up-PFV PREP 3POSS-top ART house

'X got up onto the top of the house.'

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Appendix A: Introduction to Tepehua phonology

0. Introduction

The phonology of the Tlachichilco dialect of Tepehua has been dealt with in a preliminary fashion in Watters 1980 and 1987[1]. What I present here represents only the beginnings of a somewhat more systematic formulation of phonological processes in Tepehua. Unfortunately, due to time constraints, this can only be called a beginning draft. I will at least present my understanding of some of the more significant facts and some speculations regarding their phonological representations. I have not been able to investigate in every case whether a rule or constraint applies in all three dialect areas. When I am quite sure it is limited to Tlachichilco Tepehua (or TT), I try to make that clear.

1. Phonemes

1.1 Consonants

Throughout the text, as noted in the introduction, I use the following symbols for typographical convenience:

(1) /'/ glottal stop (and glottalization of oral stops)

/c/ alveolar affricate

/ċ/ alveopalatal affricate

/ṡ/ alveolar fricative

[1] The 1980 paper, except for some discussion of syllable structure, assumes a standard linear approach to TT phonology. While the vowel length is inaccurately recorded in various instances, I still consider the account to be descriptively adequate for most of the issues discussed there. The 1987 paper presents short fragments of Tepehua phonology, utilizing CV phonology, the notion of a default consonant, extrasyllabicity and the distinction between laryngeal and supralaryngeal tiers.

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/ɬ/ lateral fricative or voiceless lateral (see discussion below)

I will use these same symbols here with one slight variation: /?/ will designate a glottal stop.

Tepehua has the following consonant phonemes:

(2)	p	t		k	q	
	p'	t'		k'	(q')	?
		c	č			
		c'	č'			
		s	š			h
	m	n				
		l	(r)			
		ɬ				
	w		y			

The glottalized stops only occur prevocalically in TT. Also in TT the glottalized uvular stop, *q'*, doesn't occur though it is present in the other dialect areas. The flap *ř* only occurs in Spanish loan words and a few onomatopoetic words:

(3) teřun 'frog'(Tierra Colorada;Tlachichilco)

keřin 'frog'(Chintipan;Tlachichilco)

tikřo:to:ti: 'wren'

ka:řoh 'automobile'

kuřus ~ křus 'cross'

A trilled *rr* ([r̃]) also occurs in a very few sound symbolic nuclear adverbs:

(4) pař pař 'back and forth, stop and go'

ɬtařan 'sudden motion out of container'

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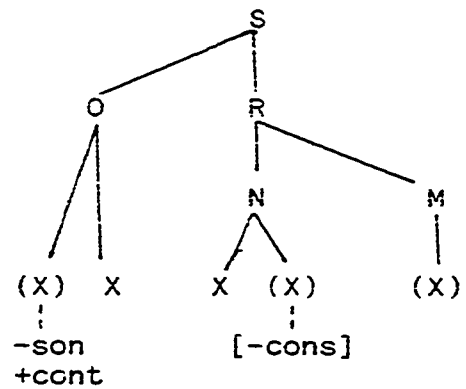
pañan 'sudden motion of/onto surface'

There has been recent work discussing the cross-linguistic distinction between lateral fricatives (here, [ɬ]) and voiceless laterals (Maddieson 1987). Without clear spectrographic evidence at this point, my impression is that the phonetic realization of this phoneme in Tepehua includes both types. For those speakers who maintain the prevocalic distinction between *l* and *ɬ* (i.e., all but a minority within the Tlachichilco dialect), the latter is realized as a lateral fricative when it occurs in the syllable onset position. However, in syllable-final position it is a voicless lateral. Such a distinction would have potential significance in any approach that appeals to sonority in accounting for the distribution of consonants within the syllable (see discussion below).

2. Syllable structure

Tepehua syllable structure can be displayed in the following manner:

(4)



The syllable onset (which is obligatory) can be filled by one or two consonants. If it is a cluster, the first

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consonant must be one of the three continuant obstruents, [ɬ], [s], or [ṡ]. Furthermore, the second member of the cluster cannot be an affricate. Otherwise, any consonant may occur in the syllable onset. The following provide examples of syllabicifaction in TT, '.' representing a syllable boundary, '-' a morpheme boundary, and stress marked by an acute accent over the vowel:

(5) ?a.hìn 'grow'

?a.ka.mìn 'smell'

?ak.ɬtan.c'ìn 'short'

?a:.t'ủy 'two others'

?a.wì:ɬ 'rat'

ċa.?ȧn 'arrive'

ċ'a.hủy 'grows hair'

ċȧ.ni:.ti 'sweat'

?ėli:s 'Aztec parakeet'

?eṡ 'then'

hȧ:.ka 'banana'

hin 'smoke'

hì'k.mi 'fire'

hủ:.ki 'horse,mule,donkey'

hun 'butterfly'

k'ȧ:ta 'one year'

k'a:tȧn 'fiesta'

kīɬ.na 'mouth'

ko:s 'very'

k'ủ.ċ'u 'medicine'

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kủ.ku 'uncle'

kủ.kuh 'sand'

lak.lả-y 'it moves'

lak.ṡkả:n 'spring (water)'

lak.sniy 'slow, slowly'

la:.pảk.ni 'Spanish'

laq.?ản 'X goes to visit Y'

lả.qah 'brother, kinsman'

laq.ṡtỏqo 'stirrer'

ɬka-y 'X measures Y'

ɬpaw 'pagua (wild avocado)'

ɬt'on 'to patch'

ɬwahi-y 'X scratches Y'

makả: 'hand'

mảh.qo:.ti 'coyol (palmtree)'

mảk.ɬku 'light'

mảk.ṡtaɬ 'trash'

mo:q.slả-y 'X offers Y'

mủ:.ṡni 'monkey'

nảq.-ya 'X hits Y'

?ỏ.t-'a 'X drinks Y'

?ỏ.ṡi 'good'

p'ả:.sni~p'ả:y.sni 'strong'

pa:.cảh.ni 'arrow'

pỏq.ṡni 'dust'

qả.hin 'turtle'

qẻ:.ṡtah 'lime'

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sàq.si 'sweet'

sà:.st'i ~ sày.st'i 'new'

s?e.hèn.?e 'sweet-smelling'

skah 'sour'

sluɬ 'lizard'

sni.pà.qa 'thin, skinny'

sqà.pa 'trap'

st'à.ku 'star'

staɬ.?àn 'slip'

stà.pu 'bean(s)'

swa:.?à-y 'X grinds it'

tah.ni: 'turkey'

taw.k'à-y 'X climbs up'

tà.ṡka:.ti 'honey'

tùm.pah 'separate, apart'

ts'a:ɬ ~ ts'ayɬ 'fast, easy'

tsa.p'àn 'sew'

?uh.ùn 'cough'

?ùk.ṡku:.ti 'tobacco'

wà:.kuh 'early'

was 'straight'

ṡa.nù.lah 'light-skinned'

ṡka:n 'water'

ṡqan 'housefly'

ṡwà:.ti 'metate'

yà.qan 'charcoal'

ya.qàq 'white'

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yu.ʔůn.ča 'they, them'

There are a very few forms that demonstrate apparent exceptions to the syllable template above. Thus, in (a) and (b), below, the codas of the final syllables have two consonants. In (c), the initial syllable also has a coda with two consonants. Note that in each case the exceptional consonant is a strident.[2]

(6)

a. lå.lakš 'guaje (tree)'

b. ka.lůk<s> 'brilliant'

c. ʔuks.-c'uniy 'near'

face-small

The two laryngeal consonants, [h] and [ʔ], are distinctive in their distribution: no syllables end in [ʔ] except in phrase-final position; and while [h] occurs syllable-finally, it contributes no weight to the syllable (i.e., stress-assignment treats a syllable ending in [h] as a light syllable; see below).

Otherwise, the coda can be filled with any consonant with one condition: if the consonant is a noncontinuant (i.e., a stop or a nasal), it must be nonanterior. This constraint is true only of the Tlachichilco dialect area; and even there, the minority subdialect spoken in Tecomajapa lacks this constraint. Note the following examples:

[2] One could, following Itô 1986, among others, claim that the final strident is extrasyllabic. Note, however, that such an account would not be possible for the last example (the only such example known to me).

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(7) *Huehuetla (and Tecomojapa)*	*Tlachichilco*	*gloss*
tam	tãw̃	'one'
nipṡi	niwkṡi, nikṡi	'squash'
ṡap-'a	ṡap-'a	'X pants'
ṡawk-li	ṡawk-li	'X panted'

The alternations then, are these:

syllable-initial	syllable-final
pV	$V^{w}k$
tV	Vk
mV	$\widetilde{V}^{w}$
n	$\widetilde{V}$

There are two possible approaches to handling this data. First, we might assume the syllable template specifies that the coda cannot be filled by an anterior noncontinuant. This would assume a model like that outlined in some detail in Ito 1986. Rather than treating syllables as constructs that are 'built up' by syllabification rules, we treat the syllable structure given in (4), above, as a template. When the template is applied to such a form, the specification for place is delinked from the oral cavity node (see Clements 1987). If [+labial] is present within the delinked place node, it is relinked directly to another position on the root tier, forming a complex consonant. Then, if we assume the default value for place is [-anterior], the account can be rather straightforward:

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(8) *ṡap-* --> *ṡa^{w}k-*

```
C V      C     -->          C  V   C     Nodes:
¦ ¦      ¦                  ¦  ¦  / \
¦ ¦      o                  ¦  ¦ o   o   root
¦ ¦      ¦                  ¦  ¦ ¦   ¦
ṡ a      o                  ṡ  a o   o   supralaryngeal
         ¦                        ¦   ¦
         o                        o   o   oral cavity
         ¦\                      /¦   ¦\
         o [-cont]       [+cont] o   o [-cont]
        /                        ¦   ¦
   [+lab]                    [+lab][-ant]

         p                       w    k
```

Another possiblity would be to treat these forms not as a result of syllable template matching but as a result of rule application. This would be a rule of 'consonant backing,' stated something like the following:

(9)

```
                    C]
                    ¦
[+ant]--->[-ant]/ ___
```

The treatment of the feature [labial] would then follow in the same way as above.

Note, by the way, that this process in some sense supports the way the feature [anterior] is used in SPE. There a plus value specifies labials and dentals as a class -- just the class of consonants that are excluded from syllable-final position in Tepehua.[3]

---

[3] Compare the following comments by Steriade:

> ...one can argue that labials never aquire specifications for the feature [anterior], because anteriority is a feature characterizing exclusively the position of the tongue blade, an articulator that is not active in the production of a labial. In this sense, labials are trivially underspecified for [anterior]: they lack this feature underlyingly and never aquire it on the surface.(1987:340)

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1.2 Vowels

Perhaps the most difficult issue in Tepehua phonology has to do with the underlying vowel inventory. Tepehua can be analyzed as having either three or five vowels and a long-short distinction for each vowel quality:

(10) i u

(e) (o)

a

Before discussing the question of underlying vowel positions, I should discuss some of the details of vowel length in Tepehua. Though vowel length is contrastive throughout Totonac-Tepehua and is significant morphophonemically (see discussion of second subject perfective in chapter 2), therre are very few minimal pairs demonstrating the vowel length distinction:

(11)	ṡqa:n	'corn leaf'	ki:laqts'iɬ	'X went, saw Y, and returned'
	ṡqan	'fly'	kilaqts'iɬ	'X saw me'
	ṡka:n	'water'	tanu:y	'X enters'
	ṡkay	'it hurts'	taṡtuy	'X exits'

The vowel length distinctions are often very subtle, largely due to the effects of stress. Tepehua is what is sometimes called a 'stress-timed' language and one of the phonetic realizations of stress is length. The further removed from final stress a long vowel occurs, the shorter it is. Thus, a spectrographic analysis of the the token in the following example shows that the second long *a:*, in absolute terms, is

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actually shorter (52 msec.), than is the final short stressed vowel (67 msec.) in the same word:

```
(12) 100
      -
     80
      -     x           x
     60     x           x
      -     x    x      x
     40     x    x  x   x
      -   x x    x  x x x
     20   x x    x  x x x
      -   x x    x  x x x
    msec._____________________
         tala:st'a:niputůn
         ta-la:-st'a:-ni-putun
         3SUB,PL-REC-sell-DAT-DESID(IMPF)
         'they want to sell it to each other'
```

There is some difference in vowel quality corresponding to the distinction in vowel length: the short vowels are somewhat more centralized than the corresponding long vowels. Thus, the high vowels, *i* and *u*, are somewhat higher when long than when they are short. More noticeably, the *a* is more centralized when short (approximately [ ]), and low when long. (Further discussion of the acoustics of Tepehua vowel length is available in Watters 1984b).

Let's return now to the question of whether Tepehua has three or five vowel positions. First of all it should be pointed out that this is not even an issue historically: Proto-Totonacan and even Proto-Tepehua clearly had only three vowel positions. The issue is not so clear in the current state of affairs as there are numerous instances of forms with *e* and *o*, though they are generally (at least historically) derived from *i* and *u*. Complicating the picture is the influx of many Spanish loans. And, finally, in the

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Tlachichilco dialect area the loss of the glottalized uvular, *q'*, has given rise to minimal pairs apparently demonstrating the existence of five vowel positions:

(13) ?uš 'bee' ?oš 'good' (<*q'us*)

š?i:w 'we(incl) bought it' š?e:w 'yuca' (< sq'i:w)

(< s-?i:-w)

A discussion of the issues regarding this point will serve to introduce various aspects of TT phonology and so is appropriate to pursue here. Quite simply, I will argue that while many instances of *e* and *o* can be shown to be derived, all five vowel positions are contrastive within the lexical phonology. The derived instances of mid vowels can be shown to result from an adjacent uvular stop (*q*) or from what I'll call vowel levelling across [?]. I will assume native Tepehua words have three vowel positions with the following feature specifications:

(14) i [-back] u [+round]

a [ ]

This assumes the following default assignments of features:

(15) [-back] --> [+high]

[+round] --> [+high]

[ ] --> [-high]

[ ] --> [+back]

[ ] --> [-round]

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However, the feature [-high] must be exceptionally specified for Spanish loanwords, yielding the following five-vowel system for these forms:

(16)

i	[-back]	u	[+round]
e	-back -high	o	+round -high

a [-high]

In the following discussion I will present the relevant rules, their ordering, and their relation to strata in the morphology.

3. Strata

I will be assuming a version of Lexical Phonology and will distinguish (at least) three levels: lexical phonology, a level of 'clitic attachment,' and a post-lexical component. There is no truly convincing evidence at this point that rules must apply cyclically at any level (i.e., in the traditional sense; certainly all the lexical rules are restricted to applying to derived forms).

Of course, there are numerous instances of word-formation that are phonologically idiosyncratic even though they manifest standard morphosyntactic behavior. An example is causative formation with verb roots such as the following:

(17)

wil ~ ?ula-	-->	mu:la-	'set down'
huk	-->	mu:k'a-	'put up above'
?uqsla:-	-->	mu:qsla:-	'offer (sacrifice)'

As will be seen, a separate level of 'clitic attachment' must be posited. This level actually includes

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forms that I have analyzed grammatically as prefixes (rather than proclitics): although it is true that they are the 'outermost' prefixes, they demonstrate the full set of affix characteristics discussed by Zwicky and Pullum 1986. Nevertheless, especially in terms of stress assignment they must apply at the same level as the enclitics.

The processes that apply at the level of the clitic group manifest some lexical and some post-lexical characteristics. In terms of stress-assignment they behave lexically. However, in terms of syllable structure, they behave like post-lexical processes. Thus, the clitics that apply here are clearly not structure-preserving in terms of syllable structure; the syllable structure template can be violated by their application. Note the following examples:

(18) *kinatk'an* 'our mother(s)'

kin-nati-k'an

1POSS-mother-PLPOSS

kinatičk'an 'our (dear) mother(s)'

kin-nati-c-k'an

1POSS-mother-already-PLPOSS

kiɬikk'an 'our paper(s)'

kin-ɬiki-k'an

1POSS-paper-PLPOSS

If we assume that the constraint against anterior noncontinuants occurring in syllable-final position is a result of a syllable structure constraint rather than a rule, the first two are examples of forms violating

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(lexical) syllable structure. However, even if we assume that constraint is a result of a rule rather than syllable structure conditions, the third form violates the lexical constraint against geminates. In either case, the results of *-ka:* and *-k'an* clticization fail to display structure preservation and so seem to suggest post-lexical status. This is not surprising, of course, since as shown in 2.6.4 and 4.3 both of these are cleary clitics by syntactic criteria. However, within the same stratum, as shown earlier, the first person object prefix *kin-* applies; a prefix that undergoes rules that can not apply post-lexically. In summary, the level which I'm calling clitic attachment displays characteristics of both lexical and post-lexical domains.

4. Lexical processes

4.1 Consonant harmony

Tepehua demonstrates two processes of consonant harmony: what I will call sibilant assimilation and k-q assimilation.

A rule of sibilant assimilation applies optionally[4] both in the lexical component as well as at the level of clitic attachment. First, note the following examples, all involving Stratum I morphology (here I represent [ċ] and [c] as [tṡ] and [ts] respectively):

[4] By optionally I mean the following: though all the speakers I've checked with accept as well-formed the items in (19) (for example) without assimilation, the most common pronunciation of these forms manifests the assimilation.

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(19) ma:č'i-štaq- 'loan'
? -give
ma:ci-sk'in 'borrow'
? -ask.for
?aqš-tam 'one flat thing'
CLAS-one
?aqs-kis 'five flat things'
CLAS-five
?ukš-?an 'be accustomed'
surface-go
?uks-k'aca: 'feel, experience sensation'
surface-know
?oqs-laqc'in 'look at Y across a surface'
surface-see
č'an-tanu: 'put foot into; put on shoe'
foot-enter
c'an-?esi:ti 'toe nail'
foot-nail
ta-č'a-?aya:-y 'the rain is getting heavier'
INCH-? -grow-IMPF
ta-c'a-c'inin 'the rain is getting lighter'
INCH-? -lessen(IMPF)

Assimilation only occurs within derivational and inflectional prefixes; there is no assimilation to sibilants in compound formation. Thus, note the following examples:

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(20) lakpa:staknah-ṡ?o:y 'clever dog'

contemplate(NOM)-dog

?ačah-tapaca:- 'work happily'

smile/be.happy-work

Note that there are no cases of sibilant harmony that involve an [s] or [ts] becoming [ṡ] or [tṡ] preceding an alveopalatal (in terms of our formulation here there is no spreading of the feature [+high]). Thus the following forms do not display sibilant harmony:

(21) ?aqs-tan-čun 'just alike'

CLAS-one-such

tasa-ṡka- 'tooth ache'

tooth-ache,hurt

pas-čašan 'six bundles'

CLAS-six

mus-čuk'u- 'cut strips'

strip-cut

Sibilant assimilation also occurs at level of 'clitic attachment' at which the last inflectional elements are added: the verbal prefix ṡ-, 'past tense,' and the noun prefix ṡ-, third possessor':

(22)a. ?is-t'a:-?aqstančun 'his/her look-alike'

3POSS-COM-just.alike

b. ?is-k'aca:-y 'X knew it'

PT-know-IMPF

Examples of the process applying in stem formation include the following:

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(24) [maqča?a:y] 'X washes hands'

mak-čaq'a:-y

hand-wash-IMPF

mak-ča:-y 'X cooks Y (where Y=tortillas); X claps'

hand-cook-IMPF

[qaɬ?ay] 'big-mouthed'

kiɬ -q'ay

mouth-big

kiɬ -t'uniy 'little mouthed'

mouth-little

[laqče?ey] 'X shatters Y'

lak-čiq'i-y

MANY-break-IMPF

Like sibilant assimilation, this process does not apply across compounds:

(25) ɬi:-pa:stak-laqc'in 'look toward thinking about X'

DIR-think-see

paškah-laqc'in 'appreciate'

love-see

And like sibilant assimilation, the assimilation is virtually always anticipatory with the trigger phoneme occurring in the root and the affected phoneme within a prefix. In fact, there are only two attested instances of k-q assimilation in which the spreading is rightward, both involving the body-part prefix, *?aq-*, 'head.'

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(26) [ʔaqlaqawa:nan] 'dream'

ʔaq-lakaw-nVn

head-see-AP

[ʔaqloqoti] 'horn'

ʔaq-lukut

head-bone

Note that this is not generally the case:

(27) ʔaq-škaviɬ 'curly-headed'

head-curly

ʔaqsp'ukni 'selfish'

ɬi:-taq-mu:k'a:- 'blame someone else'

DIR-guilt-hang.on

Another similarity between sibilant assimilation and k-q assimilation is that they affect precisely the same elements that are involved in diminutives and baby-talk, a topic I'll return to later.

However, they differ in regards to the completeness with which they apply to the potential targets. Recall that the sibilant assimilation rule applies to the past tense prefix, *š*-. However, there are three inflectional prefixes that occur within the past tense prefix which are not affected by k-q assimilation: *k*-, 'first person subject,'*kin*-, 'first person object,' and *ki:*-'return':

(28) kin-qasmak-ɬi 'X heard me.'

1OBJ-hear-PFV

k-'aqtay-ni-ɬ 'I began'

1SUB-begin-DAT-PFV

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ki:-laqc'iɬ 'X went, saw Y, and returned'

RET-see-PFV

In the first, it could be argued that k-q assimilation doesn't affect the [k] because that morpheme is added at the level of clitic attachment. However, that is certainly not true in the third case. Instead, it may be that the preceding [i] blocks the spread of the [-high] feature to the [k]. (Note, however, that [i] does not block the spread of [-high] in the case of sibilant assimilation; see, for example (19)). Finally, the lack of k-q assimilation applying to the first person subject prefix, *k-*, may have to do with the fact that it is an extrasyllabic segment, though it's difficult to see how to formulate this at this point.

However, it should be noted that k-q assimilation also applies to the locative prefix, *laka:* (which cliticizes to the head of its object NP; see chapter 5):

(28') laqa:-čaqa: *cf.* laka:-k'iw

PREP-house PREP-tree

4.2 Nasal assimilation and deletion

The following rule of nasal assimilation applies throughout the lexical and post-lexical components:

(29) C C

[nas] place

A clear example of the need for nasal assimilation to apply early in the lexical phonology is the following:

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(30) [ba:?aqstančun]

wa: ?aqs-tam-čun

FOC CLAS-one-such

'it's the same'

Significantly, this example is the only attested occurrence of the numeral *tam,* 'one,' ending in [n]. Like other forms that have a syllable-final [-cont],[+anterior] segment, it generally undergoes the consonant backing rule on stratum II, rendering /Vʷ/ (see discussion above). However, here nasal assimilation has preceded with the result that the form no longer meets the structural description of the backing rule. Specifically, it shares its place specification with the following C. Assuming Hayes's Linking Condition (Hayes 1986), the constraint against syllable-final anterior noncontinuants won't apply to a representation like the one resulting from (29), above.

In other examples, nasal assimilation or deletion must apply after consonant backing: these are usually instances of nasal assimilation applying post-lexically. There may, in fact, be a need for two distinct strata in the lexical phonology (i.e., apart from the clitic group), this being a case in point. We could claim that the suffix *-nVn* is affixed at stratum I in those instances in which it appears on 'underived' verb forms; i.e., on those intransitive verbs which have no corresponding form without *-nVn* (unless *-ni* is affixed; see 2.) In its productive use as a detransitivizing suffix, on the other hand, it is affixed in stratum II. Thus

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the verb stem for 'fear,' which is realized in Huehuetla as *talam*, in Tlachichilco has an intransitive form, *talanan*, and a transitive form, *talawni-*. Recall that forms with *-nVn* in their basic form lose that suffix when the dative suffix, *-ni*, is added (see, for example, discussion of causatives of verbs with *-nVn* in 2.3.1.1.5). We could then account for the two forms in the following way:

(31)	base	talam][nVn	talam	
	nasal deletion	talanVn		
				Stratum I
			talam-ni	
	C-backing	-----	talawnni	
	(see below)			Stratum II
	nasal del.,etc.	talanan	talawni	
	(see below)			

However, it remains to be seen if there is significant support for a distinction between two lexical strata.

The structural descriptions of the rules of nasal deletion and nasal assimilation differ in terms of sonority. Specifically, a nasal deletes before any C that is equal or greater in sonority and assimilates (in point of articulation) to any other following C (with oral place features), assuming the standard sonority scale below (see Steriade 1982) and treating [?] and [h] laryngeal glides:

(32) Glides greater sonority

Liquids

Nasals

Obstruents

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The rule of nasal assimilation was given in (29), above, without any necessary specification of sonority[5]. The rule of nasal deletion can be stated in the following manner:

(33) $C_1 \text{-->} 0$ / __ C_2
$\quad\;\; \vdots$
$\quad\;\; n \text{-->} 0$

where sonority of C_1 < or = sonority of C_2

There is an additional crucial difference between the two rules, however: nasal assimilation applies throughout the lexical and post-lexical components; however, nasal deletion only applies lexically. Also, nasal deletion applies to what I call Level II compounds but not to Level I compounds:

(34) Level I compounds:

satanyawniɬ

[satan][yaw]-ni-ɬ ki-maka:

[?][stand]-DAT-PFV 1POSS-hand

'X bent my wrist backwards'

[č'an][ɬi:min]-ta

plant DIR-come-PF

'X comes planting Y'

(35) Level II compounds:

laqc'i?i:y

[laqc'in][?i:]-y

see get -IMPF

'X takes Y as an example'

[5] Indeed, if nasals were specified as only assimilating to the place of articulation of a following C that is lower in sonority, the assimilation of m-->n in the example in ( ) wouldn't be accounted for. The Elswhere Condition accounts for the ordering relation between the two rules, the nasal deletion rule being the more specific of the two and thus preceding nasal assimilation.

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č'anahminta

[č'an-nVn]h[min]-ta

plant-AP come

'X comes planting.'

4.3 Stress assignment

Stress assignment on the Tepehua verb (Tlachichilco dialect, at least) is very regular. The last syllable is stressed if is is heavy, otherwise the penultimate syllable is stressed. The two exceptions to this generalization are the perfective suffix, *-ɬ(i)*, which causes the stress to shift forward one syllable, and *-tik*, which is never stressed. These two exceptions as well as the various complications regarding stress assignment in non-verbs require some notion of extrametricality.

I will assume the theory of stress presented in Halle and Vergnaud 1987 which sets certain parameters to determine the formation of constituent boundaries and head elements within the constituents. Within such a framework, we can account for stress placement in the following way:

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(36) a. All word-final light syllables (as well as syllables of various other lexically specified morphemes) are extrametrical (enclosed in angled brackets: <>).[6]

b. Line 0 constituents are [+Head Terminal,-Bounded, right].

c. Construct constituent boundaries on line 0.

d. Locate the heads of line 0 constituents on line 1.

(That is, roughly, at the level of stress assignment an unbounded string of syllables is grouped into one consituent with the head syllable occurring at the right edge of the constituent.)

Only primary stress occurs and it generally falls on the penultimate syllable unless the ultima is heavy in which case the latter is stressed. Heavy syllables here include any syllable with a long vowel and/or closed with a consonant other than [h]; i.e., as noted earlier, [h] does not contribute to syllabic weight (no syllables are closed with [?] except in phrase-final position; see below). Consider the following examples:

[6] At first glance it seems that this requirement could simply be handled by assuming stress is quantity sensitive rather than making all word-final light syllables extrametrical. Thus, one might claim that a quantity-sensitive left-dominant foot is built at the right edge of the word. However, this will fail to account for verbs ending in the perfective suffix, *-lh* (see below). This suffix makes the syllable it attaches to extrametrical. Yet, stress invariably falls on the immediately preceding syllable, not displaying an quantity sensitive characteristic. See examples in discussion of *-lh*.

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(37) Verbs:	Nouns:	Adjectives:
kaminȧ:	?aqċȯq	snepȧq
'X will come'	'pot'	'thin, skinny'
mintȧw	ċaqȧ:	stak'ȧw
'we're coming'	'house'	'green'
taṡtůy	kůkuh	
'X exits'	'sand'	
mȉnta	stȧpu	t'ȧkt'a
'X comes'	'beans'	'new.corn'

The assignment of stress to three of these and a longer form, following the steps listed above, is exemplified below:

(38) 1	*	*	*	*
0	(1 2)	(1)<2>	(1)<2>	(1 2 3 4 5 6 7 8)
	mintaw	minta	kukuh	katamin̓coqoputuna:
	'we're coming'	'X is coming'	'sand'	'they will want to come back'

The case of the perfective suffix, -ɬ, however, is somewhat different: the syllable that contains it is extrametrical, unless, of course, it is the only syllable in that domain. Note the following examples:

(39) tȧnu:-ɬ 'X entered'

enter-PFV

ta-lȧqts'il-ɬ 'X saw Y'

3SUB,PL-see-PFV

ċiwi:ni-ɬ 'X spoke'

speak-PFV

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ma:laqǎča:-ɬ 'X sent Y'

send-PFV

ma:qa-cǎnqa:-ɬ 'X lost Y'

CAUS-lose-PFV

These examples all demonstrate the surface effect of apparent 'stress-shift' that -ɬ has.

The qualification that -ɬ renders its syllable extrametrical only if there is another syllabe present in that domain is, in a sense, obvious; yet it is an important point. At the level of clitic attachment, further forms may occur preceding the verb stem; however, they do not take stress. Thus their surface forms contrast with those above:

(40) ka-mi-ɬ

IRR-come-PFV

'X came'

ki-?ů-ɬ

1OBJ-eat-PFV

'X ate me.'

If we assume that stress-assignment applies before the addition of *ka-* and *kin-*, the facts above follow. However, stress assignment must apply at the level of clitic attachment as well. Specifically, it must re-apply after cliticization of *-k'an*, 'plural possessor,' and *ka:*, 'still.' These two clitics are invariably stressed but we need not assume they have inherent stress. The standard stress assignment rule in (36) will give the desired results if we assume the following: application of the rule respects

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the constituents that were constructed in the lexical phonology; and the following additional steps follow the reapplication of (36) at the clitic group level[7] (the steps listed here and in (35) parallel the creation of word-level and foot-level structure, respectively):

(41) a. Line 1 parameter settings are [+HT,-BND,right]

b. Construct constituent boundaries on line 1

c. Locate heads of line 1 constituents on line 2

d. Conflate lines 1 and 2

(42) Lexical phonology:

```
 *              *
(1)<2>         (1)
ta-miɬ         miɬ
```

Clitic attachment:

```
 *              *
 *            *  *
(1)<2>      (1)(2)
ta-miɬ      kamiɬ
tàmiɬ       kamiɬ
'they came' 'may X come'
```

In the case of -č, the clitic is extrametrical in the simple sense: the stress assignment rule applies, ignoring the presence of -č:

(43) min-ta-č 'X is already coming'

come-PF-CH

pàš-ɬi-č 'X already bathed'

bathe-PFV-CH

kůkuh-č 'sand (exclamation)'

sand-CH

[7] Compare the account of stressed clitics in Greek in Berendsen 1986.

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There are three other cases of apparently unusual stress-assignment that should be noted here. First, as noted above, the second person plural subject suffix, *-tik* (*-tit* in the Huehuetla and Pisa Flores dialects) never receives stress. However, it invariably causes a preceding short vowel to lengthen and stress always falls on that preceding syllable:

(44) a. 'on-t'å:-t'ik 'You(pl) are fat.'
fatten-PF-2PLSUB

b. ṡt'aq-nì:-t'ik 'You(pl) gave it to him/her.'
give-DAT-2PLSUB

We can account for these facts by assuming the suffix has an unspecified vowel position (*-Vt'ik*) and the syllable *t'ik* is extrametrical.

Second, the nominalizing suffix *-t(i)* has an effect similar to the perfective suffix *-l(i)*, discussed above: the stress seems to 'shift' leftward:

(45) a. 'aq-tanů:-y --> 'aqtånu:ti
head-enter-IMPF hat

b. 'uh'ů-y --> 'ůhuti
cough-IMPF a cold

c. 'oqṡtamå:-y --> 'oqṡtåma:ti
hire-IMPF hired.worker

d. 'ačån --> 'åčati
be.happy(IMPF) happiness

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Assuming the final *i* is epenthetic,[8] we can give an account like that for *-ɬ(i)*, above: The syllable terminating in the suffix *-t* is extrametrical (the epenthetic /i/ is then added after stress assignment.)

The third unusual case of stress assignment concerns a fairly frequent alternation between /ahů/ and /aw/ and between /ahì/ and /ay/:

(46)	a.	šahů-y	šaw-ɬ
		burn-IMPF	burn-PFV
	b.	'ahů-ta	'aw-ɬ
		get.wet-PF	get.wet-PFV
	c.	škahì-y	škay-ɬ
		hate-IMPF	hate-PFV
	d.	'aqtahì-y	ka-'aqtay-ni-yà:
		begin-IMPF	IRR-begin-DAT-FUT
	e.	nahůn	ka-nawn-nà:
		say(IMPF)	IRR-say-FUT
	f.	wahìn	waym-putůn
		eat(IMPF)	eat-DESID(IMPF)

[8] The motivation for an epenthetic vowel here would be the syllable condition mentioned earlier: syllables cannot end in [+anterior] oral stops. Besides the fact that /i/ is the epenthetic vowel at the edges of words (word-initially and word-finally; /a/ is the epenthetic vowel word-internally; see below and Watters 1987), there is some external evidence for the epenthetic nature of /i/ here. Briefly, in a couple informal tests I taught a 'word-game' to my consultants in which /la/ is inserted after every syllable. In forms such as these, usually two forms were judged as acceptable 'game forms': one with the /i/ and one without it. Thus, *'aqtanu:ti* --> *'aqlatalanu:latila* or *'aqlatalanu:tla.* (Note that the second form does not obey the syllable structure constraint mentioned above; in fact I frequently found the 'game forms' violated syllable structure constraints.) Cf. Campbell 1987.

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There is also a correspondence between various Tepehua forms (including those above) with /hu/ and /hi/ and Totonac forms with /wa/ and /ya/. These facts all suggest that these Tepehua forms have a phonological representation like the following for the form in (f):

(47) C V C V
     ¦ ¦   ¦
     w a   i

When the stress-assignment rules result in stress being assigned to a different syllable, the V following the unspecified C is lost and the root features map onto the unspecified C slot. Otherwise, the default consonant, /h/ occurs in that position. (Tepehua and Totonacan in general have a constraint against */yi/ and */wu/ sequences, so the unspecified C could not assume the features of the following V when the V is still present.) See Watters 1987 for more examples and a somewhat different account.

4.3 Vowel fronting and vowel lowering

Among the processes that produce lexical instances of [e] and [o] are two rules of vowel assimilation. If we assume that there are two lexical strata (as briefly suggested above) we can say that they apply at stratum II and at the level of clitic attachment but not at stratum I.[9] Note the difference between the following examples which form a near minimal pair demonstrating the distinction between these two strata:

[9] While this is very regular in the Tlachichilco dialect it appears to be absent from the other two dialect areas.

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(48) stratum I

UF	ti:][?an	
stratum II	[ti:?an]	ti][?an
Vowel levelling	----	te?en
	(buttocks+go)	TI-go
	'go backwards'	'go on'

This process of 'vowel levelling' involves two rules which spread vowel features over a glottal stop. One rule spreads the feature [-back] rightward over a glottal stop to a V that is not linked to any feature specification (i.e., a vowel that would otherwise surface as [a]):

(49) Vowel fronting

```
[-back]
   ¦
   ¦
   V     C     V
         ¦
      [+const
       glott]

      [OPTIONAL]
```

However, the [-back] feature does not spread onto a following low vowel if that vowel is in turn followed by the uvular stop, *q*. We might assume that the [+back] feature of the [q] is spread onto the preceding unspecified V position, with the result that the structural description of the rule above is no longer met. Note the following example:

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(50) *ki?aqtanu:ti ~ ke?aqtanu:ti (*ke?eqtanu:ti)*

kin-?aq-tanu:-ti

1POSS-head-enter-NOM

'my hat'

*ki?aqsa ~ ke?aqsa (*ke?eqsa)*

kin-?aqs-a

1OBJ-be.tight-IMPF

'it's tight on me'

*ki?aqṡawa:l ~ ke?aqṡawa:l (*ke?eqṡawa:l)* -

kin-?aqṡawa:ɬ

1OBJ-make.mad-PFV

'X got me mad'

The other rule spreads the feature [-high] leftward over a glottal stop but is more restricted: it only spreads onto a short vowel:

(51) Vowel lowering

```
              [-high]
                 |
                 |
C  V    C     V
        |
     [+const
      glott]
```

[OPTIONAL]

Earlier I argued that [-high] is a default value for vowels that have no feature specification. However, here the feature is present and spreading onto another vowel. I will assume the following constraint from Pulleyblank (attributed to Archangelli):

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> A rule must not refer to [@F] in its structural description before a default rule assigns [@F] (1986:135)

In stratum II we clearly have to refer to the default feature, [-high]. In other words, we must assume that for native Tepehua words the default rule assigning the feature [-high] applies in stratum II. Recall that Spanish loans must be exceptionally specified for [-high] in their underlying forms. Here default feature assignment has the paradoxical effect of being structure-preserving; and this is explicitly due to the very presence of the Spanish loans and their specification of the feature for [e] and [o].[10]

I should point out that it is something of an oversimplification to label these rules as 'optional.' Some forms display 'vowel levelling' consistently, without exception. Other forms truly do vary across speakers as well as within the speech of a single speaker. Finally, other forms apparently never display such levelling though they meet the structural description of the rule. I'll briefly mention some examples.

There is only one instance I know of in which [-back] spreads leftward: in second singular future forms between the future tense suffix, *-ya:*, and the second person future suffix, *-p'i*. This is made possible by the fact that *-p'i*

[10] No doubt some readers would consider such a notion not just paradoxical but theoretically impossible. However, I don't see any other way to account for the co-existence of Tepehua and Spanish forms in the lexicon. Moreover, this account has some interesting positive results, as will be seen.

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has an alternate form, *-?i*[11]. Thus we have the following forms:

(52) ka- p'in -a: -p'i
IRR-go(2SUB)-FUT-2SUB,FUT

ka-p'in -e: -?i
IRR-go(2SUB)-FUT-2SUB,FUT
'You will go.'

However, as can be seen in the following examples, the feature [-back] generally does not spread leftward (the prefix in (a) is added in stratum II (the same level at which the second person suffixes are added in the example above), that in (b) is added at the level of clitic attachment:

(53) *tǎ?i:l* -
ta-?i:-ɨ
3SUB,PL-get-PFV
'they bought/got it'

ka?i:l -
ka-?i:-ɨ
IRR-get-PFV
'may X buy/get Y'

Both vowel fronting and vowel lowering apply regularly to the first person possessor prefix, *kin-*, when it occurs on some nouns (ordered after nasal deletion) and variably on others (though both pronunciations are acceptable). Likewise, they optionally apply to the homophonous first person object prefix *kin-*, which occurs on verbs. Compare the following forms:

[11] These facts are true only of the Tlachichilco dialect.

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(54) *ke?eman*
kin-?aman
1POSS-self
'myself'

ki?alawnilh ~ ke?elawnilh
kin-?alaw-ni-lh
1OBJ-steal-DAT-PFV
'X stole Y from me.'

ke:s?at'a
kin-ha-s?at'a
1POSS-HA-child
'my child'

ki?achaniy ~ ke?achaniy
kin-?achan-ni-y
1OBJ-smile/be.happy-DAT-IMPF
'X likes me'

ke?etina: ~ ki?atina:
kin-?atina:
1POSS-mother-in-law
'my mother-in-law'

ke?awilh ~ ki?awilh ~ ke?ewilh
kin-?awilh
1POSS-bicep/rat
'my bicep, my rat'

Finally, the vowel lowering rule frequently (though again optionally) applies to rounded vowels:

(55)
po:?an 'go by means of'
pu:-?an
VIA-go

po:?ay 'wide'
pu:-?ay
VIA-big

4.4 Uvular vowel lowering and uvular deletion

Probably the most striking source of lexical forms with [e] and [o] is the effect of an adjacent uvular stop. In all cases, [i] and [u] are lowered to [e] and [o] when immediately preceding or following a [q]. What is striking about this source of mid vowels, however, is the fact that the conditioning environment is often lost. Unlike other Tepehua dialects, the Tlachichilco dialect does not have the glottalized uvular, [q']; all instances are replaced by glottal stop. In other words, the supralaryngeal tier is lost, leaving only the laryngeal specification,

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[+constricted glottis]. However, this loss of the uvular stop is preceded by the rule of vowel lowering. I give the formulation for both rules below:

(56) Uvular-vowel lowering

```
V    C    V
|    |    |
|    |    |
o    o    o    Supralaryngeal
|    |    |
o    o    o    Primary Place
     |
     o         Secondary Place
     |
   [-high]
```

Thus,

(57) qen-t'uy

CLAS-two

'two people, etc.'

maqŝwe:qni

swing(NOUN)

moqspala-y

commit.error-IMPF

'X makes a mistake'

(58) Uvular deletion

```
          C                                          C
          |                                          |
          o          Root                            o
         / \                                        |
        /   \        Laryngeal                       |
  [+const    +                        -->        [+const
   glott]     \      Supralaryngeal                glott]
               o
               |
             [-ant]  Place
               /\
              /  \
         [+back] [-high]
```

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Where a surface form has only a glottal stop, the presence of a uvular at an earlier level can be evident in various ways: as already seen, any adjacent high vowels will be lowered; since it is ordered after k-q assimilation, any appropriate prefix with [k] will occur instead with [q]; and, in some cases, a diminutive form may occur which suggests the presence of an underlying [q'], a point I'll return to in a moment. Sometimes the only clear support for such an analysis is the form in the Huehuetla dialect. These characteristics can be seen in some of the following forms:

(59) laqpu:te?eniy

lak-pu:tiq'i-ni-y

3PLOBJ-recount-DAT-IMPF

'X recounted it to them'

laqče?eɬ

lak-čiq'i-ɬ

3PLOBJ-break-PFV

'X broke them'

?aqpite?ey

?ak-pitiq'i-y

head-fold-IMPF

'X folds it over'

tso?o (Huehuetla: tsoq'o)

bird

-?oho (Huehuetla: -q'oho)

COMPLETIVE

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laqča?a:ɬ

lak-čaq'a:- ɬ

3PLOBJ-wash-PFV

'X washed them.'

?oši

q'uši --> diminutive, *k'usi*

'good'

mah?esi:ti

mak-q'esi:ti

hand-nail

'finger nail'

ho?ati (Huehuetla, hoq'at)

man

laqa?ay

laka-q'ay

body-big

'big-bodied'

The rules of consonant-backing and k-q assimilation both apply prior to uvular deletion in the following derivation:

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(60) UR q'ut- 'to drink'

C-backing q'uk-

k-q assim q'uq-

uvular low q'oq-

uvular del ?oq-

cf. ?oq- łi *and* ?ot-'a

drink-PFV drink-IMPF

'X drank it' 'X drinks it'

4.5 Other lexical processes

I will briefly review three other phonological rules that apply lexically, both of which make reference to specific morphological information: h-epenthesis in compounds, the vowel-length 'flip' that applies to tense-aspect suffixes, and degemination.

The rule which epenthesizes an [h] between the two members of a Level II compound can be stated in the following way:

(61) Ø --> C / X$_{stem}$]_[$_{stem}$X
+son +son
+voice +voice

That is, a C is inserted between two stems that are joined at this stratum when the final segment of the first and the initial segment of the second are voiced sonorants. Various examples are given in 2.3

Another rule that refers to specific morphological information is one that flips the vowel length in the imperfective aspect (*-ya*), future tense (*-ya:*), and perfect

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aspect (*-ta*) suffixes. The future tense, ending in a long *a:* becomes short and the two that end in short *a* become long. We can formulate this rule in the following way[12]:

(62) Vowel shortening:

```
V      V     ] C --> V ] [ C
 \    /
  \  ≠
   \/
  +syl
  -high
     tns/asp]
```

(63) Vowel lengthening:

```
V          ] C --> V V] C
|
+syl
-high
    tns/asp]
```

These rules only apply preceding suffixes, not clitics, a fact that follows from ordering the rules in Stratum II rather than in the stratum of clitic attachment. Thus compare the following (where = signifies clitic boundary):

(64)	ka-min-a:=č	ka-min-a-w
	IRR-come-FUT	IRR-come-FUT-1PL
	'X will come'	'we will come'

[12] Interestingly, the vowel lengthening rule applies in Totonac as well though the vowel lengthening rule doesn't (since the future tense suffix doesn't exist in Totonac). For the Tepehua facts, this is one instance in which the account would be much simpler if vowel length were treated as a feature as in the SPE tradition, with the use of variable notation, as in the following:

```
( )  +syl
     +low  --> [-ēlong] / ___          +
      ēlong                [tns/asp]
```

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ɬi:stak-'a=č	ɬi:stak-'a:-w
care.for-IMPF=CH	care.for-IMPF-1PL
'X will take care of Y'	'we will take care of Y'
pa:stak-'a=ka:	pa:stak-'a-n
think-IMPF=YET	think-IMPF-2OBJ
'X is still thinking about it'	'X is thinking about you'
ka-pa:stak-'a:=ka:	ka-pa:stak-'a-n
IRR-think-FUT=YET	IRR-think-FUT-2OBJ
'X will still think about it'	'X will think about you'

In TT a rule of degemination applies throughout the lexical phonology and can be formalized in the following way:

(65)

```
C      C
 \    /
  ✗  /
   \/
```

That is, there are no instances (within the lexical component) of geminate consonants.

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Of course, there are several instances in which the morphology juxtaposes identical consonants, as we've already seen in the case of nasals. The most interesting instances are those in which two identical stops are juxtaposed. As discussed earlier, no anterior stops occur in syllable-final position in TT; hence, the only instances of possible geminate stops involve velars and uvulars. Whenever identical[13] [+back] stops are juxtaposed the feature specifications of the first are delinked, leaving an unspecified C slot behind. This unspecified C is then phonetically realized as [h]. Note the following examples:

(66) lahk'aca:y
lak-k'aca:-y
'X knew them'

lahqasmakɬi
lak-qasmat-ɬ
3PLOBJ-hear-PFV
'X heard them'

lahk'usi
lak-k'usi
PL-pretty
'pretty ones'

pa:stahkaɬ
pa:stak-kan-ɬ
think-PASS-PFV
'X was thought about'

kahk'aca:ya:
ka-k-k'aca:-ya:
IRR-1SUB-know-FUT
'I will know it'

kahkap'a:
ka-k-kap-'a:
IRR-1SUB-forget-FUT
'I will forget it'

[13] Here 'identical' only means 'identical in supralaryngeal features' as the same process applies between nonglottalized and glottalized stops.

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In the following examples it can be seen that it applies after syllable-final consonant-backing. Thus in (a) we have t-->k-->h and in (b) p-->ʷk-->ʷh:

(67)a. qasmahkaɬ
qasmat-kan-ɬ
hear-PASS-PFV
'X was heard'

b. lahkaʷhkaɬ
lak-kap-kan-ɬ
3PLOBJ-forget-PASS-PFV
'they were forgotten'

There are other instances in which degmination applies not to geminates that result from simple concatenation of morphemes, but ones that result from a certain relinking process. This relinking, with one accountable exception, applies at stratum I and not at stratum II. We can state the relinking in the following way:

```
(68)      C    C
          ¦
          ¦
          ¦
       [-son]
          ¦
       [-cont]
```

A stop maps onto a following unspecified C slot. Now the resulting form will be a geminate stop. This geminate then undergoes the degemination in (65). The overall effect is one of apparent metathesis between the stop and [h]:

(69) mahkun
mak-hun
hand-tell
'X makes signs with his/her hands'

mahqo:y
maq-hu:-y
hand-put.down.into-IMPF
'X puts his/her hand down into it'

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Compare the verbs above, which involve the stratum I body-part prefix for hand, with the following, which involves the stratum II prefix for third plural object:

```
(70) lakhuni:ɬ
     lak-huni:-ɬ
     3PLOBJ-tell-PFV
     'X told them'
```

However, this relinking process does apply to the one extrasyllabic prefix that occurs in the lexical phonology, *k*-, 'first subject.' We can assume in this case the relinking is driven by the extrasyllabic nature of the *k*-: with an adjacent, syllabified empty C slot available, the root tier of the extrasyllabic element maps onto the empty C:

```
(71) C -  C V      C   C V
     |   /  |          | |
     ɬ  /   | -->      | |
     | /    |          | |
     k-     u          k u
```

When the empty extrasyllabic C slot is preceded by a proclitic or other material within the phonological word (and thus syllabified), it is given the default pronunciation, /h/. However, if no material precedes, the extrasyllabic C is lost from the representation:

```
(72) kuni:ɬ
     k-huni:-ɬ
     1SUB-tell-PFV
     'I told Y'

     kahkuna:
     ka-k-hun-a:
     IRR-1SUB-tell-FUT
     'I will tell Y'
```

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kuk'aɬ
k-huk'a-ɬ
1SUB-be.above-PFV
'I'm up above'

kahka:k'iwklnina:
ka-k-hak'iwklnin-a:
IRR-1SUB-jump-FUT
'I will jump'

Finally, there is another process which applies lexically that should be mentioned here: glottalization marking second person subject. Since this has have been described in some detail elsewhere (Watters 1987) and is discussed somewhat in 2.4.5, I will only briefly discuss it here.

The process of glottalization marks second person (singular or plural) subject. As noted in 2.4.5, there are various means of marking second person subject, varying somewhat according to the tense or aspect of the verb. However, in every case a process of glottalization applies when the verb contains prevocalic stops or [h]. In some cases in the imperfective, this is the only means of distinguishing second singular from third singular subject:

(73) ɬtata-y 'X sleeps'
sleep-IMPF

ɬt'at'a-y 'you sleep'
sleep-IMPF(2SUB)

ka-ṡtaq-ni-n 'may X give Y to you'
IRR-give-DAT-2SG

ka-ṡt'aq-ni-n 'give X to Y!'
IRR-give-DAT-2SG(2SUB)

paṡ-a 'X bathes'
bathe-IMPF

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p'aš-a 'you bathe'
bathe-IMPF(2SUB)

miłpa:-y 'X sings'
sing-IMPF

miłp'a:-y 'you sing'
sing-IMPF(2SUB)

Forms that have no prevocalic stop or [h] have homophonous forms for third singular and second singular subject in the imperfective:

(74) sa:-y 'X hits Y' or 'you hit Y'
hit-IMPF

la-y 'X does/is able' or 'you do/are able'
do/be.able-IMPF

?i:-y 'X buys/gets Y' or 'you buy/get Y'
buy/get-IMPF

lani-y 'X learns it' or 'you learn it'
learn-IMPF

mak-min 'X gestures to come' or 'you gesture to come'
hand-come(IMPF)

ma:knu:-y 'X buries it' or 'you bury it'
bury-IMPF

ni:-y 'X dies' or 'you die'
die-IMPF

?oq-nun 'X drinks' or 'you drink'
drink-AP(IMPF)

smani:-y 'X is content' or 'you are content'
be.content-IMPF

swa?a:-y 'X grinds it' or 'you grind it'
grind-IMPF

?u-y 'X eats it' or 'you eat it'
eat-IMPF

wawa:-y 'X feeds Y' or 'you feed Y'
feed-IMPF

Similarly, if the only prevocalic stops in the basic form of the verb stem are already glottalized, there is no

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distinction between third singular and second singular subject:

(75) laqc'in 'X sees Y' or 'you see Y'
see(IMPF)

?aksk'ah?u:-y 'X drowns' or 'you drown'
drown-IMPF

ċ'i:-mu:k'a:-y 'X hangs Y up tied' or 'you...'
tie-hang.up-IMPF

k'ala-y 'X winnows it' or 'you winnow it'
winnow-IMPF

k'ap-'a 'X forgets it' or 'you forget it'
forget-IMPF

ma:p'u:-y 'X fries it' or 'you fry it'
fry-IMPF

?ot-'a 'X drinks it' or 'you drink it'
drink-IMPF

p'u:la:-y 'X leads' or 'you lead'
lead-IMPF

sak-'a 'X gathers it' or 'you gather it'
gather-IMPF

sk'in 'X asks for it' or 'you ask for it'
request(IMPF)

t'ala:nan 'X hunts' or 'you hunt'
hunt(IMPF)

t'i:ni:-y 'X dances' or 'you dance'
dance-IMPF

When glottalization does apply to a verb, it affects every prevocalic stop and [h] that is present in stratum II; it does not affect the stop in the forms that are attached at the clitic group level:

(76) *kat'ap'ats'a:ċ'o'oyap'i:t'ik*
ka-tapatsa:-ċoqo-ya-p'i:-t'ik
IRR-work-REP-FUT-2SUBFUT-2PLSUB
'you(pl) will work again'

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kiṡt'aqnin
ki-ṡtaq-ni-n
1OBJ-give-DAT-2SG
'give it to me!'

?amanamp'ut'un
qamanan-putun
play-DESID
'you want to play'

ka?aqt'ay?u:t'i
ka-?aqtayhu:-t'i
IRR-help-2SGSUB(PFV)
'help him/her!'

na?un
nahun
say(IMPF)(2SUB)
'you say'

There are some speakers that do glottalize the [k]s that occur in *ka-* and *kin-*, however, the majority of speakers do not. Notice also that the rule of uvular deletion (discussed above) applies after the glottalization of stops.

One of the factors that serve to complicate the process of second person glottalization is a post-lexical process of deglottalization. The farther removed from phrasal or word stress a glottal stop or glottalized stop occurs, the more likely it is that the constricted glottis feature will 'drop out.' The same appears to be true of [h]. Notice the following fast speech pronunciation:

(77) tu:nà: ?ala:ṡuṡ
t'ahun ?u-na: ?alàṡuṡ
is(IMPF) eat-INF orange
'X is eating an orange'

This also occurs in the case of second person glottalization yielding interesting results. The [q] which drops out when glottalized, leaving [?] (as specified in the uvular

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deletion rule above), reappears in those instances in which deglottalization has applied:

(78)a.ha:ntu kama:ʔats'an'à:t'i ~ ha:ntu kamaqats'an'à:t'i
ka-ma:qats'anqa:-t'i
NEG IRR-lose -2SGSUB(PFV)
'don't lose it!' (or 'you didn't lose it')

b.kaʔamananč'oʔop'ut'una:p'i:t'ik ~ kaqamanančoqoput'unap'i:t'ik

ka-qamanan-čoqo-putun-a-p'i-t'ik
IRR-play -REP-DESID-IMPF-2SUBFUT-2PLSUB
'you(pl) want to play again'

These examples clearly show that the uvular deletion that applies following second person glottalization is post-lexical. Yet, we saw evidence earlier that uvular deletion applies at stratum II as well. This suggests that uvular deletion is ordered before the spread of the glottalization in stratum II and then reapplies post-lexically where the glottalization occurs.

Throughout the preceding discussion I have been assuming that [h] is the default consonant; and the evidence has supported this account: [h] has occurred as the default consonant in the /hu/ ~ /w(a)/ and /hi/ ~ /w(i)/ alternations as well as a result of degemination. However, it should be noted that in word-initial position, the epenthetic consonant is invariably the glottal stop, /ʔ/. Thus, the first person subject prefix, *k*-, which was shown to be extrasyllabic above, is sometimes syllabified by the creation of syllable structure: an epenthetic glottal stop followed by an epenthetic /i/:

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(78) k-tapaca:-y --> 'iktapaca:y

1SUB-work-IMPF

k-pa:stak-'a --> 'ikpa:stak'a

1SUB-think-IMPF

5. Post-lexical phonology and phonetic implementation

Some post-lexical and phonetic processes have already been presented (nasal assimilation, centralizing of short vowels); here I will mention a few more, especially those that relate to phrase-level phonology.

In the Tlachichilco dialect /w/ is pronounced as a bilabial fricative, [ɸ] when occurring in syllable-initial position. In the Huehuetla and Pisa Flores dialects it is regularly pronounced [w] in both syllable-initial and syllable-final position.

Also in the Tlachichilco dialect (my data is indecisive regarding the other dialect areas) no voiced short vowel may occur in phrase-final position. A short (and therefore unstressed, see above) vowel or sonorant-vowel sequence that is preceded by a voiceless consonant is voiceless. Otherwise, the short vowel is deleted:

(79) min-ta 'X has come'

kuku 'sand'

p'aṡni 'pig'

muṡni 'monkey'

paṡ-a 'X bathes'

makɬku 'light'

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min-ya --> min 'X comes'

laqc'in-ya --> laqc'in 'X sees'

Phrase-internally (word-final) these same short vowels are either pronounced or deleted:

(79') ki-stapu-k'an [kistapuk'an ~ kistapk'an]

1POSS-beans-PLPOSS

mi-nati ka-min-a: [minatikamina? ~ minatkamina?]

2POSS-mother IRR-come-FUT

All long vowels in phrase-final position are stressed (see discussion above) and end in a glottal constriction (preceived as a glottal stop though spectrographic evidence shows continuation of the vowel). Long vowels in such a position, then, are perceptually quite short with a following glottal stop. (They continue to have a formant structure characteristic of the vowel quality associated with long vowels, however.) Even if we grant that this truly is a phonetic glottal stop, however, this is the only context in which a syllable would be closed by a glottal stop. Phrase-internally, of course, the same long vowels are simply pronounced as standard long vowels:

(80) kin-čaqa: [kinčaqa?]

1POSS-house

kin-čaqa:-k'an [kinčaqa:k'an]

1POSS-house-PLPOSS

ka-'an-a: lakɬi:tamaw [ka'ana:lakɬi:tamaw

~ ka'ana? lakɬi:tamaw]

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